THE GENESEE FARMER

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THE CULTIVATION OF FISH.

The time is not very remote when the cultivation of fish will become an important branch of rural industry in the United States. Our climates, lakes, rivers, creeks, and the artificial ponds that may be formed for purposes of irrigation, ornament, and fish-culture, will furnish admirable facilities for the breeding, feeding, and indefinite multiplication of the finny tribe. Some may suppose that the propagation of fish, even by the union of art and science, will not pay. Experiments, however, in France and Switzerland, now in progress, leave no room for reasonable doubt as to the profitableness of the labor expended in producing this article of human food; for physiological science has rendered those disposed to engage in pisci-culture a service that will completely revolutionize the business and avoid most of the hazards and losses hitherto experienced. It is our purpose to render this new process in the breeding of fish plain to the unlearned man or boy who ever caught one by hook, spear, or net.

Like other animals, fish are of both sexes—male and female. Everybody has seen the eggs of the female; but everybody has not studied the natural instincts by which these eggs are fertilized as they are deposited on the ground. Now, it is this study, or strictly scientific research, united with practical experiments in propagating fish, that has brought to light the great improvements in fish culture, to which attention is invited. The exceedingly numerous eggs of fish are hatched by the genial warmth of the sun while lying in pure running water. Hence instinct prompts most fish to ascend from deep lakes, bays, and the ocean, all streams that flow into them in order to deposit their spawn and hatch their young, which descend with their parents to the sea or lakes where they find the aliment that brings them to full maturity. The impregnation of the spawn is precisely similar to that witnessed in the fertilizing of the silk on the embryo ears of corn by the anther dust that falls from the tassels of the plant and rests upon the ends of the silk. Without the contact of the yellow dust upon the stigmas, not a kernel of corn would grow, however rich the soil. It is equally impossible to obtain a fish from the egg of a female without the contact of the fertilizing atoms derived from the system of the male. This much has long been known; but it was not known that one could gently express by the hand both the spawn from the female and the sperm from the male into warm, clean, running water, such as nature uses for hatching the eggs of fish, and thus multiply them by indefinite millions. Yet this operation (one of the simplest imaginable) is now successfully performed, and young salmon trout, shad, perch, and other fish, are transported in water from one stream or pond to another with as much facility as the scions of choice fruit trees are conveyed from one orchard or country to another.

The facility with which young fish may be multiplied from a few mature ones, under

favorable circumstances, which nearly every farmer can command, and the ease with which enough for seed may be transported in a few gallons of water frequently changed, presents this branch of industry in an entirely new aspect.

Of course young fish, like chickens, need daily and appropriate food to make them grow; and the study of the alimentary substances on which fish feed and wax fat is an important part of pisci-culture. In all streams, ponds, lakes and seas, where fish abound in a state of nature, worms, grubs, aqueous insects and plants also abound for their subsistence. If the ocean contained no plants, and was not adapted to their growth, animals could not live in its vast waste of desert waters; for any given number of strictly carnivorous animals, whether fish, insects, birds, or quadrupeds, must inevitably exterminate their kind, seeing that each individual would destroy before it was itself eaten, more animals than it could possibly propagate and bring to maturity. Hence, if there were no land plants there could be no land animals; for with the extinction of all plant-eating animals, flesh-eating ones would rapidly destroy each other until the last carnivorous beast died of starvation.

It is the highest achievement of the arts and sciences of agriculture and husbandry, to provide at all times a full supply of appropriate food for every cultivated plant and every cultivated animal, in the most economical manner. Nature has provided for the possible increase of all living things in a ratio truly marvellous; and in few animals are the possibilities of increase more wonderful than in the millions of eggs developed from the blood of a few fish which one may propagate. Young fish grow finely when they can get the eggs of toads, frogs, and other amphibials, to feed upon. All such animals, like young oysters, need a highly nitrogenous aliment. Fish may be reared on peas, beans, wheat, and most other seeds. Whatever will feed birds, will nourish fish; and the latter yield the richest known manure in the shape of guano. Instead of having sea-birds furnish farmers with guano derived from fish, let farmers themselves rear fish to be consumed by man at a profit to the producer, and then let the fertilizing atoms contained in the fish and extracted from the bottom of fish ponds, creeks, and rivers, be converted into guano (nightsoil) to enrich cultivated fields. Both land and water may be made to yield four-fold more food and wealth for the human family than they now do according to the population of the most industrious and civilized nations, provided the laws of nature are properly studied and obeyed. We are not prepared just now to suggest the best pastures for fish, for experiments have yet to decide the value of different articles of piscatory diet. Their food may be reared in water, or hard by where fish are grown, that they may be fed as steers, dairy cows, pigs, calves, and horses are often kept by stall-feeding. But without resort to artificial pasture of any kind, millions of valuable fish may be reared in the United States where the native stock is nearly or quite exhausted. On the head waters of the Hudson, Connecticut, Susquehanna, Allegany, Potomac and Savannah rivers, the breeding of shad, trout, and white fish, may be prosecuted on a magnificent scale. One of the earliest and most successful experiments made in Europe, was conducted after this fashion:—The hull of an old river craft was sunk in a clear, running stream, and its bottom covered a few inches with sand and gravel as a suitable bed for the spawn of fish. Several holes were cut at both ends of the boat or vessel so that water ran through and over the bed of sand and gravel. Upon this the spawn and sperm, fully matured in the bodies of both sexes, were gently expressed and deposited, imitating nature, for the ova of the female are impregnated after they reach the ground. After the ova are hatched in the vessel, one can feed the young fry and change the water without allowing any of the fish to escape. In this simple nursery all depredators may be kept at a proper distance, and almost every egg fecundated and made to produce its fish.

As the living embryo in a new laid egg, or in an egg about to be laid by a bird, has a vitality independent of its parents, so the matured eggs of a female fish and the

matured sperm of the male may live some days, perhaps weeks, after their parents are dead, and may be transported thousands of miles by steam without destroying their vitality. Young fish may be carried with nearly equal facility. The superb salmon trout which we now get in the Rochester market, are big with the germs of a new generation; and we trust that some of our enterprizing citizens, who greatly excel in propagating millions of fruit and ornamental trees, will turn their attention to nurseries for the production of myriads of young salmon. At the head waters of the Genesee river, the business might be carried on to a great advantage. It is respectfully suggested to the officers of the agricultural societies that they offer reasonable premiums to encourage this interesting branch of rural industry.

In the Patent Office Report for 1852, we have given a somewhat extended account of experiments made by M. M. Bertholt and Detzem, who are now experimenting under the patronage of the French government in Alsace, a few miles from Basle in Switzerland. Some experience appears to be required to enable one to decide when the spawn and sperm of fish have arrived at full maturity, so that the operator may safely remove them from the bodies of fish, and plant them as he would seed corn, or set eggs for hatching out chickens. With ripe seed and proper care, a prolific crop is almost certain. The length of time that elapses from the deposit of eggs to the appearance of the fish, varies somewhat with the temperature of the water. So soon as the natural laws that govern this peculiar incubation are determined by satisfactory experiments, our readers shall be among the first to be informed upon the subject.

WOOL GROWING IN THE ARGENTINE PROVINCES.

In a work recently published in London under the title of "Two Thousand Miles Ride through the Argentine Provinces; being an account of the Natural Products of the Country and Habits of the People," &c., &c.: by William MacCann, we glean a few interesting facts touching the growth of wool. Our author says: "A very industrious Irishman was lately in this neighborhood who bought eight thousand sheep at *one shilling and six pence per dozen*, which is no more than three half pence each; this is somewhat cheaper than eggs: for just now I cannot obtain an egg for less than three pence."

This magnificent grazing region, where horned cattle, sheep, horses, and mules may be reared to an almost unlimited extent, is about to be brought within twenty days travel by steam of New York. The empire of Brazil and the contiguous republics, spread over the immense valley of the Amazon and its tributaries, offer powerful inducements to all enterprising emigrants, whether from Europe or the United States. There is a considerable number of British and Irish settlers in the country who enjoy perfect security under the government, and are prospering in their circumstances. The climate of Buenos Ayres is favorable for breeding sheep; the cold in winter never being so intense as to require them to be housed. The land is very fertile, generally presenting a vast sea of verdure.

Mr. MacCann's mission was of a mercantile character, and it is to be hoped that his work will soon be reprinted in this country, for it contains much information of interest to Americans. If good sheep can be had for three cents a head, and unlimited pastures for little or nothing on which to feed them, wool growing in South America must be more profitable than digging gold in California. A large number of Merino rams have been taken to the plains of Buenos Ayres, and the wool exported to Great Britain and this country is being greatly improved in quality as well as increased in quantity.

Fine wool has been grown in the land of the orange and fig in Spain; and the table

lands on the eastern water-shed of the Andes present at their varying elevations, a wide range of climates within the limits of easy travel of a flock of sheep. The great success that has hitherto attended this branch of husbandry under rude management, and while the governments have been almost constantly engaged in wars, would seem to leave no room to doubt that, under more favorable auspices, with security for life and property, with steamboats on all the navigable rivers, and steamships in all seaports, the business of wool growing, or cattle breeding and rearing, may be carried on at an enormous profit. Silver to the amount of two thousand million dollars has been taken from the mines in the Argentine Provinces. Of the six nations whose territories are mainly drained by the Amazon, all but Brazil have invited the commerce of the world to ascend that river and trade with them on the most favorable terms. The Legislature of Peru has placed $200,000 at the disposal of the executive power to organize territories on the head waters of the Amazon, and a decree has just been published removing all duties on goods of whatever kind imported into the ports of Nauta and Loreto, and a homestead of four *fanagadas* of land is to be given to every immigrant, to whom is also guarantied freedom of religious worship. Brazil controls the mouth of the Amazon, and has not yet consented to the free ingress and egress of the commerce of the republics drained by this river, which is said to be one hundred and fifty miles wide where it empties into the Atlantic. New Grenada, Equador, Peru, and Bolivia, are largely interested in opening a free passage down to the ocean; and the monopoly or tribute exacted by Brazil must be of short duration.

The agricultural wealth of that continent is not at all appreciated; but the time has arrived when a new order of emigrants, with their common schools, their Protestant churches, their steam presses, steamships, and steam locomotives, is to be extended over South America. Well does Lieut. MAURY of the National Observatory say:

"A spirit has gone abroad there, and it is upon the waters of the Amazon. A little more than two years ago the federal government selected a gallant officer of the navy, who was at that time serving in the Pacific, detached him from his ship, first for special service in Lima, and afterwards directed him to explore the Amazon from its source to its mouth; to sound its depths; and to guage its capacities, present and prospective, for navigation, trade, and commerce.

"That expedition has returned; and Lieut. HERNDON, the officer in charge of it, appreciating the importance of placing the information collected by him before the public without delay, has already submitted his report to the government. It has been transmitted to Congress, and that body, rightly conceiving it to possess a high degree of interest, has ordered a large number of extra copies. The party consisted of but two officers.

"Count D'ORSEY, a French officer, had, when engaged in an exploration of the same region, been murdered but a short time before; yet, notwithstanding this, the American officer, when he arrived in sight of the great water-shed, determined, with the go-ahead spirit of his countrymen, to divide the party—to send his companion, accompanied by a young American sailor, whom he had enlisted in Lima, into Bolivia, and down the Madeira; while he himself, with no one but a Peruvian, and such of the natives as he might pick up by the way, to accompany him, resolved to undertake the main stream itself. Thus accompanied, he descended that river on rafts and in 'dug outs' through a distance of three thousand five hundred miles, and found it navigable for vessels of the largest class from the sea to the Andes.

"That expedition has stirred up the people in the Spanish republics of the Amazon. The President of Bolivia has taken the lead in the matter, and proved himself a statesman of the first order. He has thrown the Amazonian provinces of that republic open to the commerce of the world: he has proclaimed the freedom of the seas for the Amazon and its tributaries, and has offered a prize of $10,000 to the master of the first steamer that arrives there from the ocean."

From the Atlantic to the Andes is 3,000 miles, in nearly a direct line due west; and the Amazon is navigable for large vessels all the way. Colonies of emigrants will soon be organized in the Middle States for settlement in Bolivia, where a cordial welcome is likely to greet their arrival. Exploring agents will soon be in that country and in the contiguous republics, to see what can be done in sheep husbandry, stock-growing, tillage, cutting timber, collecting dyestuffs, drugs and medicines, and buying sites for cities, villages, and manufacturing towns.

We should be much better pleased to see wool growing greatly extended in this

republic and our own country, than in South America or Australia; but sheep husbandry is on the decrease in half the States of the Union, and it is hard to compete with those that can purchase sheep by the thousand at three cents a head, and keep them without hay, turnips, or shelter. Nor is it possible for any protective tariff that American farmers may reasonably expect, to overcome the natural disadvantages attending the production of wool on a large scale in the Northern States. All clear-sighted men see the steady advance of free trade principles, whether they approve of them or not; and it is obviously the part of wisdom to adapt one's business to the condition of things as they actually exist, rather than as he may believe they ought to exist. Emigration, change of pursuit, and fearless adventure, characterize in an eminent degree the age in which we live. Agriculture is beginning to feel the effects of this new-born energy, and more fully developed love of novelty, called the spirit of progress; and as faithful chroniclers of passing events, we have deemed it our duty to call attention to the equatorial fields of the South, from which many million pounds of wool are now annually received, and for aught that we can see to the contrary, indefinite hundreds of millions may be yearly exported, before children now at school shall cease to need woolen fabrics. The annual export of cotton from the United States increased over 800 per cent. from 1821 to 1849; and the wool trade of Brazil, Buenos Ayres, and other contiguous nations, may advance with equal rapidity in the next quarter of a century. So far as mutton shall be in demand in this country, particularly in the Northern States, wool growing is likely to be profitable as a secondary interest; but improved land is beginning to cost too much for extensive sheep-walks, such as abound on the vast pampas of South America.

ARTIFICIAL MANURES.

The *Working Farmer* says that "The increased use of artificial manures in the United States has been greater within the last year, than within any five years since the formation of our government." Whether this statement be true to the letter or not, there is no doubt of the fact that American agriculture is about to exhibit a new feature in its connection with the manufacture and use of the food of plants. Having steadily pursued an exhausting system of tillage and husbandry for two centuries, the cultivators of the soil in the old States find it necessary to possess more manure than can be made on naturally poor or impoverished farms. Hence, they are compelled to purchase guano, poudrette, bone dust, ashes, gypsum, street manure, and other offal from cities. This necessity for more manure places farmers and gardeners in many places within the reach of sharpers and speculators, who act on the maxim of Jemima Wilkinson, that the world is a goose; and he is a fool who has no hand in plucking her. Brandreth has realized a princely fortune from his bread pills; Swain from his *panacea;* Barnum from Tom Thumb; and why should not Mr. Mapes from his "improved superphosphate of lime"?

When the Misses Fox invented their spirit rappings not many rods from the *Genesee Farmer* office, they were poor, and lived in obscurity; now they support a fine establishment in the city of New York, and have ex-U. S. senators at their feet as votaries; they have turned the head of a judge on the bench of the Supreme Court of the State, and sent scores, perhaps hundreds, perfectly insane to lunatic asylums. When Joseph Smith, then a resident of an adjoining county, got up his golden Mormon bible, the writer obtained one of the first copies published, and heard the prophet's account of its miraculous revelations to him. We did not believe that it was possible for such a tissue of absurdities to gain proselytes in this age and country; but experience has shown that Mormonism has sufficed to found an organized Territory under the United States gov-

ernment, and now threatens to establish an independent nation in the heart of the Republic. We never hear Mr. MAPES lecture that he does not remind us of the peculiar shrewdness of JOSEPH SMITH; nor read in his journal the glowing accounts of "twelve thousand late Bergen cabbages raised on an acre manured with five hundred weight of the *improved* superphosphate of lime," that the golden bible of the Mormon prophet does not seem to be the authority which we are consulting. In the leading article in the June number of the *Working Farmer* the public is told that "The improved superphosphate of lime, which was introduced by *ourself* but little more than twelve months ago, is now in such demand that the manufacturers can not supply one-tenth of the quantity asked for, notwithstanding their factory is capable of delivering ten tons or more per day. And even the imitations which have been made within the last four months, are eagerly bought up by those who can not be supplied with the genuine article." These counterfeit quacks are, however, soon to be knocked into pi; for "the manufacturers of the improved superphosphate are rapidiy increasing their facilities, and will shortly be able to deliver twenty tons or more per day." This, however, MR. MAPES says, "will be *very far* from an adequate supply;" so that "imitators" may stand some chance to aid in picking the professor's goose, after all!

This artificial manure, which is said to be twice as powerful as the best Peruvian guano, is sold at the low price of fifty dollars a ton; and by selling twenty a day, a thousand dollars a day will be the income of the establishment, forty per cent. of which at least will be profit. A profit of $400 a day for 300 days in a year gives a nett gain of $120,000 per annum—a business that beats BARNUM's best menagerie, and the Misses FOX out of sight.

The *Genesee Farmer* has been accused of dealing unfairly by the inventor of this manural *panacea* because it published an analysis of it made first by Dr. ANTISELL, and then by Mr. JOHNSON, of Yale College, by which the agricultural value of the article was revealed to the public. Other and more favorable analyses have been published by Mr. MAPES, and this demands at our hands the plainest possible statement of the abuses to which analytical chemistry is liable in its application to artificial manures, and rural affairs generally, without reference to Mr. M.

Ammonia, or organized nitrogen, phosphoric acid, and potash, are the three most costly constituents of crops, and therefore the most valuable elements of manures. These facts being known, it is easy in a city where all the elements of the best manures abound, to get up a few tons exceedingly rich in phosphoric acid, potash, and ammonia, which, when properly applied to the land, will give very extraordinary results; and when analyzed, they will indicate a compound worth two or three times its weight of the best guano. But such a manure will cost as much per 100 lbs. as the best potash in the market, and afford no profit to the manufacturer. None is expected from this superior article directly, for it is given to distinguished farmers to try, and report the results of its influence on various crops. The operation of the manure being highly beneficial, the most trustworthy certificates of the value of the improved superphosphate of lime are obtained by the score. Now the manufacturer is ready to sell phosphorus, which is worth some $3 a pound and more than $200 per 100 lbs.; ammonia, which is worth at least $10 per 100 lbs; and potash, which is worth $5 per 100 lbs., at $50 a ton! But what evidence does any bag of 160 lbs. of "improved superphosphate of lime" give the purchaser, that it is better than so much ground bones? Ten bags may contain a better manure than the seller promises, while nine hundred and ninety may be nearly worthless, and yield a profit of 200 per cent. to the inventor and manufacturers. Of course, they will have the manure contained in the ten best bags carefully analyzed and published in an hundred papers; and on the credibility of these analyses thousands will purchase any thing that the manufacturers may say is a manure similar to the one carefully examined by the chemist. In this way, chemistry is most success-

fully used to humbug the farming community. It may be asked: What is the proper remedy? We answer, not to abandon the use of city made manures, but to create a public opinion in the country which will constrain all municipal authorities to save fertilizing substances and concentrate them so that they can be put up in cheap bags like guano, and distributed as far as any grain, flour, meat, or cotton is sent to market. In short, the cultivators of the soil must make those that reside in cities and villages feed the land that both feeds and clothes the denizens of cities and villages. Not to do this is a violation of a law of God, and an offence which he will certainly punish.

The subject of artificial manures is one of vast importance; and it is just now in that hazy twilight which enables any one who loves supremely the almighty dollar, to make a fortune in a few years by vending marvellous remedies to rejuvenate the soil. So long as the public supports quack doctors of every hue, Mormons, polygamy, spiritual rappers, the exhibitors of "woolly horses," and whatever else is steeped in falsehood and imposture, we have no right to complain of charlatans who sell twenty tons of their artificial manure a day, at $50 per ton. True science, which has no secrets, scorns exaggeration, and despises the tricks of trade, stands a poor chance where its counterfeit in everything passes with the million as current coin. All that we can do is to inculcate sound principles alike in agriculture and morals, expose quackery whether in high or low places, and try to leave the world a little wiser than we found it. It is to be deplored that there is nothing so sacred in religion or spiritual truths, nor in the social or moral relations of man to man, but it is prostituted to objects of mercenary gain, and so adulterated with errors and falsehoods, that one can hardly separate the pure from the impure, or what is right from what is wrong. What possible reform will strike at the root of this evil? So long as mankind shall love to be cheated by imposters, the State of New York will turn out the originators of new systems of religion, like that of Joseph Smith—new "spiritual manifestations," like those of the Misses Fox—of new theories of "terra-culture," like that of Mr. Comstock—and of new superphosphates of lime, like that so extravagantly commended by the *Working Farmer*. If these imposters are properly noticed they raise the cry of persecuted saints, and gain sympathy and strength thereby; and if not noticed at all, they carry all before them by the easy perversion of verbal and written evidence, so that the community is taxed to support many of their victims in insane hospitals, and still more as public paupers. If a way could be found out to prevent imposition in general, and in the maufacture of artificial manure in particular, it would do more to advance society in morality, knowledge, and wealth, than any discovery which has been made since the fall of man. Closely and patiently have we studied the hindrances to agricultural progress, and so far as we have been able to discover, falsehood, in its thousand protean shades, is chief among them. Things are not what they seem; and as our relations to each other become more artificial, truth is surrounded by more numerous throngs of vicious counterfeits. A true man will make an open fight against these; but his enemies, operating in secret, will be likely to destroy him. Using money to make money by false pretences, they have the power to command temporary success, and secure the greatest triumph to the greatest imposture. The food of plants must be studied more than it now is, before frauds in artificial manure can be detected, or prevented, by farmers.

We repeat, artificial, or special fertilizers, should not be avoided, but their composition should be carefully investigated, that the intrinsic value of their elements may be generally and thoroughly understood, both in town and country. Nothing is easier than to deodorize, and evaporate to perfect dryness, every thing that is valuable for agricultural purposes in cities; and if this were done, it would render them far more healthy, and, at the same time, furnish the most concentrated food of plants in vast quantities and at a mere nominal price. Cities reeking with human excrements and foul sewers, never fail to be afflicted with pestilence in its most malignant forms; and yet there is not one

in the civilized world in which wise sanitary regulations are adopted and enforced. To some this will appear as a hasty and ill-considered assertion; but it is made after taking much pains to study the sanitary systems of the cities in China, Continental Europe, and Great Britain, as well as in our own country and South America. It would fill a volume to give a satisfactory review of this interesting subject. In our humble opinion, neither the public health of cities, nor the paramount interests of agriculture and horticulture, should be left to the fitful cupidity of soulless companies or of private citizens, for the manufacture of artificial manure; but the whole matter should be properly governed by legislative authority, in order to escape the dreadful penalties of neglect, and prevent the temptations to commit fraud, and profit by misrepresentations. Exaggeration in everything is crushing the life out of all truth in society. Fashion is every where planting the prolific seeds of falsehood, which Habit will water in coming years with many a bitter tear.

AGRICULTURAL JOURNALISM.

THERE are some forty or fifty agricultural journals in the United States, a large majority of which are conducted with equal fairness and ability. A few, however, are controlled by mercenary and unscrupulous men, who, conscious of their own want of integrity, are prone to regard all others as dishonest and intensely selfish as themselves. They look upon the masses as born to be duped and cheated by the false pretences of the cunning and the gifted; and, therefore, they study duplicity and craft as the surest means of success; and finally, they have for their trade what is known out of New England, as "Yankee smartness." It is always unpleasant to come in collision with such men, for they assert falsehoods with an air of confidence and sincerity, that one who does not know from other sources of information that *the truth is not in them*, is easily deceived, and regards them as entitled to all confidence. Such characters are the more to be avoided when it is possible, because they wield an educated command of the vocabulary of blackguards, and rely mainly on offensive epithets in conducting an editorial controversy, as they lack every virtue that goes to form the gentleman.

Little Rhode Island has recently turned out a specimen of humanity in the person of one WILLIAM S. KING, editor of the *Boston Journal of Agriculture*, who answers to the description we have given. We shall not bandy epithets with him, but, as in the case of THOMAS EWBANK, prove beyond all controversy, in due time, that said KING has uttered and published false and calumnious accusations against the proprietor of this paper, in order to obtain the Agricultural Clerkship of the Patent Office. Whether he is likely to succeed, or has succeeded, we are not informed, not having been in Washington for some six weeks.

We did not seek the task of collecting information and preparing for the press the last four annual reports on American Agriculture, of which Congress has printed, and ordered to be printed, five hundred and forty thousand volumes. Having a large job printing and newspaper establishment that required our personal attention, to say nothing of the two agricultural journals with which we were connected, our willingness to serve the farming interest at the federal metropolis involved, at that time, a pecuniary sacrifice; and we are now happy to return, after an absence of nearly six years, to our own Western New York, to labor while life shall last for the advancement of Agriculture and Industrial Education. It is not our present purpose to give to the public at any length, the views we cherish in reference to industrial education and agricultural journalism, in a republic where more than a moiety of the voters are farmers. To persuade farmers to unite in forming State, county, and township societies, and make all

these auxiliary to a national organization for *educational purposes*, is, in brief, The Plan marked out by us many years ago for calling into existence tens of thousands of agricultural libraries and schools, superior in every respect to the common schools and libraries of New York, which may flourish in every county in the United States. False friends may retard this great work of educational improvement, which is designed to embrace all industrial classes; but in the end, it is sure to triumph in every quarter of the Union. When the people say they want a scientific education, then agricultural journalism will take the highest rank among the learned professions; and that the people will, ultimately, so decide, is with us a matter of the most undoubting faith. No second number of the Quarterly Journal of the United States Agricultural Society has been published, after the lapse of ten months since the first was issued—not from a lack of funds, but the want of that *faith* which is the parent of all new and important enterprises. Works soon die where faith is not; and where they do not die immediately, they become valueless. To create a popular taste for rural literature and sciences, we must study to improve our agricultural journals, and foster the establishment of numerous agricultural libraries.

In this way the lights of the age will penetrate every log-cabin in the land, and add four-fold to the knowledge, wealth, and happiness of the American people. For less than fifty cents, including postage, ninety-nine hundreths of our subscribers receive twelve numbers of the *Genesee Farmer* in a year; the last eight volumes bound, form an addition to any library worth many times more than the cost of the work. Probably not one-third of the adult owners of the soil read any agricultural journal whatever.

A general effort should be made to place a copy of some good agricultural paper in the hands of every farmer and gardener in the country. By so doing, public opinion will soon create industrial libraries and seminaries of learning, where science and physical labor will meet each other as friends and co-workers for the elevation of mankind. Starting from the point that an *art* is always something to be *done*, and a *science* something to be *known*, the masses may constantly rise in knowledge and arts, in virtue and happiness, by cultivating the inherent powers which God has given them.

THE FARM AS A MANUFACTORY.

NUMBER THREE.

In the two former articles on this subject we stated that all soils capable of profitable cultivation contained every one of the fourteen elements which compose all our agricultural plants. The difference between a new fertile soil and a badly cultivated impoverished one is not attributable to the existence in the one, and to the absence in the other, of any particular ingredient, but to the *different proportions* in which the constituents of plants exist in the two soils, and, more especially, to their state of combination, and their *availability* as food for plants. Thus, sandy soils do not contain so large a proportion of the constituents of plants as do clay soils; yet, when first cultivated, the former invariably yield larger crops than the latter, because the clay soil is more compact, and the food of plants does not exist in that available condition as it is found in porous, sandy soils. The average production of the farm depends, not on the quantity of food lying latent in the soil, but on the amount of available food of plants and animals kept *in circulation* on the farm.

We also considered the effect of cultivation on the gaseous and organic matter of the soil, arguing from the fact demonstrated by Mr. Lawes' experiments, that wheat, and

probably maize and all other cereals, destroyed large quantities of ammonia during their growth; that on soils where cereals were principally cultivated, ammonia, of all the elements of plants, would be first deficient. Another fact mentioned was, that while wheat and barley destroyed ammonia, and consequently required great quantities for the production of large crops, clover, peas, beans, tares, and turnips, did not destroy ammonia, but on the contrary retained that brought to them, during the growing season, by rain water.

Bearing these two most important facts in mind, we will proceed to examine the effects of cultivation on the inorganic or mineral matter of the soil.

All our works on agricultural chemistry abound in tables showing the amount of the various elements removed from the soil in a crop of wheat, maize, barley, oats, clover, potatoes, &c., so that there is no necessity for repeating them here, although we have at command many original analyses of all the principle crops of a rotation with the exception of maize. It is not the effect on the soil of the entire removal of the whole crops of a rotation that we are required to study, for no intelligent agriculturist, and we are writing for none other, would for a moment think of removing all his produce from a farm; so that such tables, if accurate, which many of them are far from being, are of but little direct benefit. To derive much practical information from agricultural chemistry, we must study the changes of matter as it passes from the earth and air into plants, and from these into plants and animals capable of supplying food for man, and otherwise administering to his use and comfort; we must trace the atoms as they are again returned in their original state to the earth and air, to begin anew the endless round of the mineral, vegetable, and amimal kingdoms; we must examine, not only what a crop contains, but also what portion of it is necessarily removed from the farm, and what returned to the soil.

In the Natural History of New York, part V., it is stated that a crop of wheat in Western New York of thirty bushels per acre, including straw, chaff, &c., removes from the soil 144 lbs. of mineral matter. According to the same authority, a ton of dry clover hay removes 198 lbs. of mineral matter. Any deductions from such data showing the exhaustive nature of cultivation on the mineral matter of the soil, are wholly inapplicable to agriculture as practiced by intelligent farmers.

We are under great obligations to JOHN BRADFIELD, Esq., for a statement of the flour, bran, &c., obtained from Genesee wheat ground at the Clinton Mills in this city during the last nine years. The total number of bushels ground was 726,551; the total number of barrels of flour obtained was 173,803. Having reduced the results of each year to a percentage, and finding a remarkable uniformity in the respective years, and considering the great quantity of wheat ground, we believe the mean results afford the most reliable data yet published on the subject.

Taking the mean results of nine years, 100 lbs. of Genesee wheat yielded 75.50 of superfine flour, 3.47 of fine flour, 5.09 of fine middlings, 4.37 of shorts, and 0.69 of bran Total 97.37—showing a loss in grinding of 2.63 lbs., doubtless water. Judging from upwards of one hundred analyses made in the Rothamsted laboratory, the superfine and fine flour mixed would contain 0.70 per cent. of ash; fine middlings, 4 per cent.; coarse middlings, 5.50; shorts, 8; bran, 8.50.

From these data it is evident that of the 144 lbs. of mineral matter in a crop of wheat of 30 bu. per acre, somewhat less than 10 lbs. only is contained in the superfine flour; the remaining 134 lbs. is found in the straw, chaff, bran, shorts, &c. The 30 bu. of wheat, even if none of the bran or shorts were returned to the farm, remove but 26 lbs. of mineral matter; but many farmers purchase from the millers large quantities of bran and shorts for feeding purposes, the mineral matter of which would be retained on the farm. It is impossible to estimate satisfactorily, but we believe that on many farms near Rochester not more than half a pound of inorganic matter is removed from the soil,

never to return, in each bushel of wheat. In this way, 288 bu., or nearly ten good crops of wheat, do not impoverish the soil of more mineral matter than is contained in one crop of 30 bu. to the acre.

Again, a crop of clover that will make a ton of *dry* hay, contains, we have shown, 198 lbs. of inorganic matter. If the hay is sold off the farm, this large quantity of ash is lost to the soil; if it is plowed in for wheat, &c., none of it is lost. If consumed by animals on the farm, not more than 5 lbs. of mineral matter need be lost to the farm. A lean sheep was found to contain 3½ per cent. of ash, and as it takes somewhere approximating a ton of clover hay to produce 100 lbs. increase of animal, we may safely conclude that not more than 5 lbs. of mineral matter is removed from a ton of clover hay by passing through the body of an animal. In this way we can grow and consume forty crops of clover and not export from the farm more inorganic matter than is contained in one crop. The same reasoning applies to maize, barley, oats, timothy, potatoes, and in fact to all farm products.

Is it not evident from these facts, that while it is easy to impoverish (not exhaust) the soil of the inorganic constituents of plants, yet on a farm, as managed by intelligent agriculturists, the removal of inorganic matter is very small and in no way proportionate to the great destruction of organic matter by the growth of cereals?—J. H.

MILK, BUTTER, AND CHEESE.

Milk consists of sugar, casein (curd), salts, globules of fat (butter), and water. It often, in addition, contains some aromatic principle, derived from the food of the cow. After milk is drawn from the cow, the vital affinity which kept the carbon, oxygen, and hydrogen so combined as to form sugar, ceases, and the sugar is gradually converted into another compound of the elements named, lactic acid. In popular language, this change is called the souring of milk.

The fat or butter is in globules mixed with the water of the milk. These globules, when the milk is at rest, gradually ascend to the surface, taking with them a little casein, sugar, and water, or lactic acid in place of sugar, if the milk is sour. This compound may be skimmed from the surface, and is called cream. If this cream be heated, the globules of fat burst and unite together. Being lighter than the other constituents of cream, they ascend to the surface, forming an oily fluid. This may be taken off, and if put into a cool place, it solidifies, and is in fact pure butter. Butter so obtained will keep a long time without becoming rancid, but it has not the taste of common churned butter, and is not used as an article of diet. To obtain butter for food, the heat required to burst the globules of fat, is generated by agitating the cream or milk in churning. To have the particles of fat coalesce as solid butter, the cream must be neither too cold nor too hot. Churning raises the temperature from four to ten degrees, according to the degree of agitation and friction to which the cream is subjected. From 60 to 65 degrees is the proper range for milk and cream about to be churned. Butter so obtained contains a little sugar and casein (curd), and any aromotic principle the cream may possess; and it is better suited to our taste than pure butter obtained by the direct application of heat.

Butter made in this way will not keep fresh long. Its sugar is converted into lactic acid; and after this change has taken place, the butter is said to be rancid. If an excess of sugar be artificially added, then this change does not take place. Pure common salt and saltpetre have also the power of retarding rancidity. Many dairymen keep butter after the casein is all worked out, by adding a mixture of pure salt, sugar,

and saltpetre. Well packed in air tight casks or crocks, butter thus put up may be kept any length of time without change.

Casein or cheese may be obtained in a tolerably pure state by adding any acid to new milk, skim-milk, or butter-milk. When this is done, the casein or curd falls to the bottom. The most remarkable property of casein is, that it is soluble in a weak solution of soda or potash; that is to say, it forms a compound with these alkalies which is soluble in water. Without the presence of a little free soda in new milk, its cheese could only exist in the form of a precipitated curd; and so soon as lactic acid sufficient to neutralize this soda is formed by the decomposition of the sugar of milk, casein begins to fall to the bottom of the vessel. By adding a little more soda to milk than nature furnishes (and this amount depends somewhat on the regular salting of cows), the souring of milk may be retarded for days without injury to the quality or flavor of the milk. Recent analyses of milk in France have shown that it contains *albumen* as well as casein. The coagulating substance in the rennet or stomach of a calf is muriatic acid; although the animal tissue in the process of incipient decomposition may, and doubtless does, aid in precipitating curd in cheese-making. Good cheese requires that all the butter or fat in the milk be retained in the curd, so far as practicable. Too great pressure is to be avoided in the manufacture of cheese.

CLASSIFICATION OF ANIMALS.

Anxious to render our periodical more instructive and interesting than it has ever heretofore been, we are about to bestow much additional editorial labor upon it, in condensing for its pages valuable information drawn from natural history and other available sources. As the capital invested in live stock in the United States exceeds that employed in all our manufactures, to which government has paid so much attention, we offer a few remarks on the Classification of Animals, which deserve to be studied, both anatomically and physiologically, far more than they now are.

All living beings admit of being arranged into the two kingdoms of animals and vegetables. Each of these can be again arranged into natural divisions; each of these divisions may be again divided into natural classes; each of these classes into natural orders; each of these orders into genera (which is the plural for genus); and each genus has its species and varieties. An example will make this system plain: One division of the animal kingdom is called the Vertebrate, because the animals comprising it are possessed of a *back bone.* (Vertebra is the Latin for back bone.) One of the classes of this division is called the Mammal, because the animals composing it are distinguished from all the rest of the vertebrate animals by suckling their young by mammæ, or breasts and teats. One of the orders of the mammals is called Ruminant, because the animals composing it, and they alone, chew the cud or *ruminate.* One of the genera of the ruminants is called Ovis (sheep), and is distinguished by the horns (when present), being unlike those of deer, persistent (not shed each year), and turned laterally and spirally. Then the Ovis aries, or common sheep, is a species of this genus, characterized by having more wool than hair, as the Merino and Cheviot.

The animal kingdom contains four well-marked natural divisions. The lowest of these is called the Radiata. The animals comprising this division are distinguished from all others by all their members being disposed round an axis in two or more ways. They have no back bone, and no internal skeleton. The lowest class of the radiata is the Poriphera, or Sponge tribe, of which the common sponge is an example. The sponge of the shops consists of a net-work of elastic fibres, which, when the sponge is alive, is filled with a gelatinous mass, so soft that it drains away from the sponge when

it is removed from the water. This mass is permeated by a number of canals, though which the sponge possesses the power of making the water continually pass, with the purpose, doubtless, of extracting nourishment from it. Sponges have never been known to exhibit either sensation or the power of voluntary motion; and hence many naturalists arrange them among vegetables. But the little germs that produce sponge, move about before fixing themselves to a rock; sponges are from analogies of structure usually considered now to be of an animal nature, although the usual manifestations of animal existence are not obvious to our senses.

CORN CULTURE.

An esteemed correspondent, "S. Y.," of Essex county, N. Y., objects to making large, high hills in hoeing corn, for various reasons: 1. Because such hills shed rain, and suffer more from drought than flat ones, or none at all. 2. Corn gives out more suckers when hilled up, which is considered a damage to the crop. 3. It keeps the corn more backward; it does not ripen so early, as it gives out a new set of brace roots every time it is hoed. 4. It costs three times the labor to cultivate the crop with the excessive use of the hoe that it does to rely mainly on the cultivator and plow.

We beg to assure our eastern friend that corn growers in Western New York and the Great West, produce millions of bushels of this important staple without ever taking a hoe into the field at all, except to plant, and often not for that.

His suggestions about not planting corn too thick, particularly where one desires to raise pumpkins or beans between the rows, are judicious; as is also the caution not to cut the roots of corn plants with the hoe in cutting up weeds about the hill. He plants on greensward turned over just before planting; and instead of spreading manure before plowing, it is applied afterwards, and harrowed in before the ground is planted. In a postscript he says:

"I always make use of a preparation [for soaking seed] that I found in the *Genesee Farmer* in 1846, May number, page 107. It came to hand just in time. I had a piece of ground that I intended to plant to corn, and it was full of *wire worms;* I used the preparation with beneficial results, and I do not know that I lost a hill of corn that year by the worm. I have made use of it every year ever since with great benefit to the crop—*enough to pay me for the Genesee Farmer fifty years at its present price.*"

As many of our subscribers may not have the volume of 1846, we again place on record the "preparation" alluded to. It consists in dissolving two pounds of copperas in sufficient soft or rain water to cover a bushel of seed corn, in which it is allowed to stand twelve or fifteen hours. To a peck of this soaked corn, there is added a pint or more of soft soap, and the two are thoroughly stirred with a stick till every seed is coated with the soap. The corn is then dried sufficiently for planting by adding ground plaster, and again stirring it.

Mr. Lansing Wetmore appears to have first recommended the above preparation in the *Farmers' Library*, and found it to increase his crop 33 per cent., besides keeping off insects and birds. His experiment appears to have been carefully made, and resulted in giving him a gain of 200 bushels of ears for copperas, soap, and plaster, worth not to exceed sixty-three cents.

Hornless Cattle.—In our last issue we expressed the opinion that probably hornless cattle were not over two or two and a half centuries old as a distinct race. This opinion was based on an authority, of the correctness of which we had some misgivings at the time the article was written, and on further research, we now believe to be erroneous. Being still anxious to trace the early history of all our domesticated stock of the *Bos*

family, we shall be obliged to any of our readers who can put us on the track to find any evidence to prove that the Galloway, Angus, and other hornless breeds, are descended from a race that had horns; or that any fossil hornless cattle have ever been found in Great Britain, Ireland, or Eastern Europe. Sheep are known to lose and acquire horns without any very long intervention of time. Domesticated swine without any thing more than the rudiments of tusks, acquire them of formidable length when they run wild a few years in the forests. An increase and decrease of length and weight of horns are no uncommon occurrences. The cattle of Sicily carry more weight of horns, according to that of the whole carcass, than any other that we have seen; and the small cattle of the pine woods in the Southern States come next to them. When we said that fine specimens of Galloway cattle might be seen in "Augusta, Charleston, and Washington," the word Charleston was by mistake printed "Charlestown," which being a town in Massachusetts, might mislead the reader. We never saw any Galloway cattle either in New York or New England, although they may be kept. Native hornless cattle are not uncommon in the Northern States, but, as the *Boston Cultivator* truly remarks, they are not Galloways.

BEWARE OF CUTTING WHEAT PREMATURELY.—One of the largest wheat growers in the State of Delaware, who uses between fifty and sixty tons of guano a year, informs us that he lost nearly three thousand dollars by cutting his wheat prematurely, and thereby causing it to shrink badly, at the harvest of 1852. He was induced to deviate from his usual practice by reading an extended article on harvesting wheat written by Mr. EDMUND RUFFIN, of Virginia, who is generally regarded as high authority, being himself a pretty large wheat grower. Nothing is easier than to misjudge as to the precise time when this important crop ought to be harvested. It has frequently been asserted that so soon as the milk disappears, and the seed is in a "doughy state," the grain should be cut. This, we believe, is a little too early; as it is a little too late after the seed is hard and dead ripe.

The farmer is seldom able to cut down his entire crop at the exact time when it will yield the most weight of grain and flour; and hence, as Mr. RUFFIN suggests, it is often deemed better to harvest a little too early than a great deal too late. By the use of wheat-reapers propelled by horse power, farmers are able to cut large fields of wheat at, or very near the proper time. The drying of the straw immediately below the head, by which the ascent of sap is arrested, is one of the most reliable indications of the maturity of the plant, and of the necessity of cutting and curing it. Many wheat growers, particularly in the tobacco and cotton growing States, permit their wheat to stand too long in the shock, or in small stacks, before it is either threshed or properly housed. Birds, vermin, and other animals destroy much of it; and sometimes protracted rains cause the grain to sprout, and the crop is half wasted from sheer carelessness.

CHEESE IMPORTED INTO GREAT BRITAIN IN 1852.—A return from the the office of the Inspector General of imports and exports, obtained by Sir P. EGERTON, contains an account of the quantity of Cheese imported into the several ports of Great Britain in the course of the year ending January 5th, 1853. The return shows the following figures:—"Imported from the European States, 278,179 cwt.; from the United States, 11,275 cwt.; from the British colonies, 2 cwt.—making a total of 289,457 cwt. The quantities of foreign European cheese exported from the United Kingdom during the same period, amount to 5,694 cwt." By these figures it will be seen that the Continent furnishes Great Britain about twenty-six times more cheese than the United States. These facts are important, showing as they do that that market needs vastly more of this dairy product than we are able to supply. We might increase our export five-fold, and then sell to England less than a fourth of the foreign cheese which is now consumed there.

FRENCH MERINO SHEEP.—The sheep represented in the accompanying engraving were selected in France for me by JOHN A. TAINTOR, Esq., of Hartford, Conn. They are pure blood Merinos, and were bred by Messrs. GILBERT and CUGNOT, who undoubtedly have, for size, constitution, and weight of fleece, the best flocks in France. I obtained my first imported French sheep in 1848, and have increased my flock by importations from that country every year since. They are unusually large for fine wool sheep, the ewes, when of full age and in good condition, weighing from 120 lbs. to over 200 lbs. each, and some of the bucks over 300 lbs. each, though these would be unusually large even for this class of sheep. Their wool is of good quality, though not equal to Saxon for fineness; but it is as fine as the Spanish Merino will average. They are not all alike, however, for there is with them, as with all other fine wool sheep, a great difference in the quality as well as in the evenness of their fleeces. Their wool is *very* thick and compact, more so than I ever saw it on any other breed of sheep, covering their entire bodies—is thick and long on their bellies and legs and their heads and faces are sometimes so completely covered with wool as to blind them, and unless sheared away it frequently injures their sight. My imported ewes have sheared over 15 lbs. each on the average, of one year's growth in a perfectly natural condition, or unwashed; and some of my bucks have sheared more than those represented in the engraving at one year's growth.

But on the weight of fleece, much depends on the care and condition of the sheep. I never knew a very heavy fleece sheared from a sheep in a very poor and thin condition. As it regards my own flock, it has always been my aim to take as good care of them as I knew how. I do not mean by this that they have been highly fed with grain, for too much of that would prove an injury rather than a benefit: but I have at all times given them an abundance of good nutritious food—have seen that they had access to pure water, particularly in winter—that they had salt by them at all times—that they were kept clean and well littered in winter, and provided with good comfortable sheds, well ventilated, to protect them from the storms. These, and many other little cares, are indispensable to their health and growth. For nine years past I have kept from 250 to over 1000 sheep, and my losses from sheep dying during the winter have not been, on an average, one per cent. This is certainly strong evidence that the sheep possess hardy, robust constitutions, but with that they have had good care, which should also be taken into account.

I have sometimes washed my French sheep, but do not generally do so, as they have cost me very high prices and the washing is attended with some risk. Sheep will never go into water unless compelled to do so, and these being large and strong they would struggle violently, and dragging them into the water to wash might prove injurious; besides there is not sufficient advantage in it to pay for the risk, as the wool will net me about as much in one condition as it will in the other, for what is lost in price is gained in quantity. It is in as good demand, and will sell as readily unwashed, by discounting one-third of the weight to make it equal to common brook washing. This is all that has ever been required of me when I have offered mine for sale, and it will probably shrink in about that proportion, though some fleeces would undoubtedly cleanse away more, and others less, than that. As a whole, the wool of the French sheep is more inclined to be dry, and they have less oily and gummy matter in their fleeces, than the Spanish Merinos.

The French sheep are remarkably prolific. A good proportion of the ewes have twins, and as they are excellent nurses, there is no difficulty in raising their lambs. I have never failed of raising more lambs than I have had ewes, and it is not uncommon to raise fifty per cent. more.

Some contend that the French Merino sheep are of a "hot house growth"—that they have attained their present large size by a system of high feeding—that they are not hardy, and when put on ordinary keeping would pine away and become a degenerate race; but this has not been my experience with them. That the French Merinos have been brought to their present high state of perfection without generous keeping and a judicious and thorough system of breeding, is not to be supposed. What treatment has produced the Durham, the Hereford, and the Devon cattle?—the Clyde, the Norman, and the various other improved breeds of horses?—the Leicester, the Bakewell, and the South Down sheep?—the Byfield, the Essex, and the Suffolk swine? Has it not been accomplished by good and skillful breeding?

My principal flock was originally pure Spanish Merinos, and I still keep some of the Spanish pure, but the most of my present flock are crosses of Spanish and French Merino, being half and three-fourths French blood, and I find the larger the infusion of French blood, the larger the sheep and the greater the increase in the weight of fleece. I formerly kept the different varieties of sheep, the Merinos, the Saxons, the South Downs, the Cotswolds, &c., more, however, for the purpose of experi-

FULL BLOOD MERINO SHEEP.

IMPORTED FROM FRANCE. OWNED BY JOHN D. PATTERSON, OF WESTFIELD, CHAUTAUQUE CO., N. Y.

menting than otherwise. The different kinds were kept and fed together, and in all respects fared alike. Some of them were kept pure; others were crossed. The different varieties are all good for certain purposes—some for mutton, others for wool. The French Merinos, however, from their large size, their great adaptiveness to acquire flesh, together with the large fleeces they produce, seem to possess and combine to a remarkable degree both qualities—the wool growing with the mutton sheep.

It is the opinion of some that it requires an equal amount of food to produce a pound of flesh and wool, without regard to the size or the breed of the sheep—that they require and consume food in proportion to their live weight. These conclusions I think are erroneous; in fact, I know they are not correct when applied to my own flock. That a certain number of French sheep require and consume more food than the same number of sheep of a much less size there is no doubt, but they also produce more flesh and wool, in proportion to the quantity of food they consume, than any other sheep I ever kept. When turned out to pasture, they are not disposed to wander or ramble about like most other kinds, but are much more quiet and gentle, and for the amount of food they consume, they accumulate flesh and fat faster than any other sheep I ever knew, and I have never seen that breed of sheep that will produce as much value, or as many fibres of wool to the square inch of surface, as the French Merinos.

My original flock of Spanish Merinos was good, it having been selected from the best flocks in our country without regard to price, and for this reason I was exceedingly cautious what I crossed with, so much so that after I obtained my first imported French buck I used him only to a limited extent With my first lambs from him I was highly pleased, and when they were sheared their fleeces far exceeded my expectations. Since then I have had no hesitation about using French bucks, and have scarcely used any others, for I find the more of that blood there is in my flock the better the sheep suit me, and the more profitable they are for wool growing purposes.

It is to be regretted that there is, in some instances, a spirit of animosity springing up between the breeders of the Spanish and the breeders of the French Merinos. This should not be so. Both kinds of sheep are good, and there is room for all. None but the most friendly feeling should exist between us. If we who are breeding the different classes of sheep, or other animals, do not exactly agree in all our views, that is no reason why we should not feel friendly towards each other, and not only friendly, but we should be the best of friends. That we should all think alike in this, any more than in other things, is not to be expected: and it is well we do not, for if all of us preferred Durham cattle, there would be no Devons; and if we all preferred the Merino or Saxon sheep, there would be no Leicester or South Downs; and so it would be with the other different breeds of animals. But let us take a liberal, high minded, and honorable course, not only with ourselves but with others. Let each take his favorite race of animals and make an effort, by a close and careful system of breeding, to improve them, for there is room for improvement, and we should strive by all honorable means to excel each other in obtaining and diffusing the best varieties of breeding stock. There is no danger of our best improved breeds of animals becoming too numerous. If they are really superior, they will all be wanted and will all be useful. Competition in an honorable and friendly way can do no harm and may do good, as it is said "competition is the life of business." It will at any rate serve to stimulate us and increase our efforts to excel each other in producing the best of its kind. If those of us who are breeding sheep do not in all respects coincide in our views, it will probably be admitted that we are all aiming at one and the same object, and that is to obtain the *most profitable* breed of sheep. After a thorough trial, and from careful experiment, it is my opinion the French Merinos are the most profitable to keep for all purposes. Of this I have no doubt, though it is not my wish to dictate for others, as they can have the same opportunities for judging that I have had, and can decide for themselves. However, I am always open to conviction, and if there are any better sheep than the best French Merinos, I would like to see them, and when convinced of that fact, shall endeavor to purchase some of them, if possible, as I always go for the best breeding stock that can be obtained. JOHN D. PATTERSON.—*Westfield, Chaut. Co., N. Y.*

TO PREVENT RABBITS OR MICE FROM BARKING FRUIT TREES.—Make a tolerably thick quick lime white-wash, with plenty of salt or brine in it, and apply, plentifully, after the leaves have fallen or the ground has frozen. I have found that whenever, or wherever, I have made the application, where the rabbits are bad, my trees invariably escaped, when those only a few feet from them would be eaten. J. M. W.—*Barclay Ill.*

Horticultural Department.

CONDUCTED BY P. BARRY.

RAISING FRUITS FROM SEED.

We know of no subject on which we can more profitably offer a few observations at this time of the year than that of raising fruit from seed. We are every year ransacking foreign countries for new varieties; we are not satisfied with what we have, and we never shall be. It is in the nature of man to seek for novelties; and it is well, on the whole, that it is so. We shall not say a word against this, but we wish to commend to people's attention the abundant means which nature has placed within our reach to produce new varieties here, at home, on our own soil.

Shall we neglect these? We hope not. There seems, fortunately, at the present time, a disposition in the public mind favorable to the improvement of home resources in a gardening sense, and the raising of seedling fruit is certainly one of the most important. Just enough has been already done to show what we may do, and afford us encouragement to proceed. Dr. Kirtland's cherries, Dr. Brinkle's raspberries, and many varieties of strawberries, all of much merit, are recent additions to our lists of fruits, raised from seed in the simplest manner, without any regard to the niceties of hybridization; so we can count up fifteen or twenty first rate American seedling pears, and every locality can boast of its favorite and peculiar seedling apples, some of which, and indeed many of which have a national reputation, all grown from chance seedlings.

Now, in fruit growing it is of the highest importance that every man cultivate such varieties as are best adapted to his soil and climate. One of the great problems which pomologists now-a-days are endeavoring to solve relates to this very point. As botanists have divided the surface of the earth into zones of vegetation, each of which is characterized by a peculiar flora, by the prevalence of certain trees, and shrubs, and plants that flourish there, and there only; so in fruit culture it is believed necessary to map off this great country of ours, embracing such a variety of climate, into pomological zones, in each of which certain fruits will succeed better than elsewhere. On this pomological chart, which our American Pomological Society, if it live and thrive, will one day appoint a commission to draw up, we shall see clearly defined the exact limits of successful cultivation of our *Bartletts*, *Seckles*, and *Virgalieus*, our *Newtown Pippins*, *Baldwins*, and *Spys;* and this will certainly be a most interesting and valuable map; but it may be a long time yet before it be completed, or before we shall have collected the great mass of facts and statistics which the execution of the work will demand.

Meantime, we must urge upon fruit growers, both professional and amateur, every man or woman, every boy or girl, who can obtain seeds of fine fruits, to plant them and rear them into bearing trees. We think it scarcely admits of a doubt but that this is the true way—we had almost said the *only* way to obtain varieties completely adapted to all local circumstances; we can read this plainly in the history of nearly all our native fruits. As a general thing, their culture is most successful in the region of their origin. Some, like certain genera of plants, are confined to narrow limits, beyond which they do not appear to prosper; others admit of a greater diffusion, and adapt themselves to a greater variety of circumstances.

We find the most forcible illustration of this in the case of northern and southern fruits. The *Fameuse*, *Pomme grise*, and some other apples of the north, are best in the coldest latitudes, and fail as they go south, until they become worthless before they

reach the Mississippi. So with southern fruits; like the *Rawles' Janet, Tewkesbury Winter Blush*, &c., that succeed only where the seasons are very long, and are entirely worthless in the north, where the spring opens about the first of May, and autumnal frosts come as early as the first of October. We believe the *Porter* and *Baldwin* are no where so good as in Massachusetts; the *Newtown Pippin* is best on Long Island and the Hudson; the *Spitzenburgh* in New York, &c.

Aside from the unquestionable facts of the case, it is clearly natural that this should be so. A variety springing up from seed in any given locality, is, in the course of its production, endowed with a constitutional vigor and habits adapted to that locality in a particular manner—just as men are more at home in the climate and mode of life of their native country than in any other, and are, in a measure, proof against local diseases that strangers would immediately fall victims to. This is all in strict conformity to the wise harmonious laws that regulate and govern all Nature, animate and inanimate.

Now, we are an impatient people—a "fast" people, to use a current term—and we are quite loth to embark in any thing that does not promise immediate results. Our young men now-a-days greatly prefer hazarding their lives for the chance of securing a lump of California gold to working a fortune patiently but surely out of their paternal acres. To such people, raising new and fine fruits from seed, where, perhaps, not more than one in ten thousand may be a prize, is a slow business, and any thing we may say will probably fail to convince them that it is not quite so slow as they imagine. But we shall try, nevertheless.

Suppose, for instance, we wish to produce some seedling strawberries; we take the finest berries of the best kinds we can procure; they must be perfectly ripe; we either wash the seeds out of the pulp, or we crush the berries and spread out pulp, seeds, and all to dry. We then sow either the clean seeds, or dried pulp and seed, in light earth, and by autumn we have nice plants. These we protect during winter with a covering of leaves, and next spring we plant out into beds; the following season they will bear, and we will be able to see whether we have gained a prize or not. Raspberries, currents, and gooseberries, are managed exactly in the same way, and will fruit in the same time. This is not a tedious process. Three years or four enables us to arrive at some results with these small fruits, and very important fruits they are. Now it would take as long as this to raise a colt fit for market, and a first rate new strawberry, currant, or raspberry, is worth two or three good colts at least, and it might be half a dozen.

Peaches are easily raised from seed, and come quickly into bearing. Every one knows how to raise peaches from seed. The fresh pits may be transferred at once from the pulp to the ground; and in three or four years it will yield fruit. Pears and apples are more tedious; but there is a way to manage these to obtain early results. Suppose, now, in 1853 we collect seeds of the finest apples and pears; as we take them from the fruits we place them in sand or earth until we have done collecting; we then plant them in fine, well prepared earth. Next spring they will grow, and in the autumn of 1854 we shall have yearling plants. While yet in leaf we select the most promising subjects—such as show in their features the greatest degree of refinement; then, instead of waiting for these to bear, which would not happen for ten years, perhaps, we graft or bud from them into bearing trees—dwarfs, if we have them—and in two years or so we will fruit them. Plums and cherries are managed in the same way.

Now we think that no reasonable person who has patience enough to wait for the ordinary seed time and harvest, could call this a *very* tedious process. Aside from the advantages which it offers, the raising of seedling fruits is full of instruction and intensely interesting, as every one can testify who has given it a trial. We shall have more to say on this subject hereafter.

THE PEACH WORM.—During a few years past, it appears that most peach trees about here, as well as other places, have nearly or quite died in consequence of worms making inroads between the bark and wood of the trees, near the surface of the ground, thus nearly "girdling" the tree, and causing gum to be seen. This destruction of peach trees may easily be prevented by timely removing the earth from the tree to the depth of three or four inches, and with some sharp and pointed instrument trace the lethal paths made by the worms and *kill* them. Do this as soon as the buds begin to grow, leaving the earth away a few weeks, and then replacing it. If during summer or autumn worms resume their ravages, repeat the process, and you may raise plenty of luscious peaches to eat with milk and bread, one of the most delicious and healthy suppers that ever a tired Yankee stone fence builder enjoyed. Various other ways have been tried to destroy the worms, but the above is the best I have tried. The largest peaches I ever saw, grew on trees I planted and treated as above mentioned, while my neighbors trees mostly died from the effects of worms. A person can thus "worm" from fifty to a hundred trees in a day. A few days thus spent during each year would enable farmers to raise plenty of peaches for their own use, and a few loads to sell—provided they are not killed by freezing. Fruit trees not growing on land descending northward in this latitude and changable climate, are more liable to be injured by freezing than are trees near the ocean.

Should a reader of the *Genesee Farmer* know of a better plan to preserve peach trees from worms, I would like to know it. MERCHANT KELLY.—*Bentonville, Ind.*

THE FRUIT CROP—WEATHER, &C.—The fruit crop in Western New York, after passing through several trying changes of temperature, promises well, and may now be considered out of danger. On the evening of the 18th of May we had a violent thunder shower, accompanied with some hail and a great deal of wind, that in many places blew down houses and uprooted large trees. It injured the peaches, pears, and plums considerably; apples were just in a sufficiently backward state to escape. What made it worse, were several cold, rainy days that followed. The peach trees looked worse than we ever saw them, and for a short time all hopes for a crop were abandoned. On the last days of May, however, it became warm, and trees recovered rapidly—the curled and bloated leaves dropped, new healthy leaves pushed out, and the fruit that remained on swelled rapidly. Nothing can afford a stronger proof that it is cold and variable weather that affects the peach leaf, than the fact that as soon as we have a warm and steady temperature, the sickly leaves fall, and the tree assumes a healthy hue.

From the first of June up to this time (17th), we have had a remarkably favorable time for vegetation, and the growth made among trees and plants is fully equal to that of our best seasons at this time. On the 14th, 15th, and 16th it was excessively warm, the thermometer ranging from 94° to 96° in the shade; the atmosphere at the time was dry, and vegetation for the moment seemed on the point of being suspended, but a timely shower came, succeeded by a more temperate warmth, and now growth is luxuriant.

Green peas grown in the open ground appeared in the Rochester markets on the 13th June for the first time this season, we believe, and in two or three days after that were abundant, cheap, and good. The *Early Kent*, as far as we know, beats the other early sorts nearly a week.

On the 12th *Bauman's May*, *Early Purple Guigne*, *Belle d'Orleans*, and *Early Richmond* cherries were ripe. The *Belle d'Orleans* is the earliest light colored cherry we have yet seen.

Editor's Table.

The Monroe County Plowing Match took place at Churchville, June 4th, and was well attended, there being at least one thousand persons on the ground. Nineteen plows were entered, five of them by boys under eighteen years of age. The whole of the plowing was good; that of the boys first rate, and all five of them took premiums. One, a boy under fifteen years of age, plowed the quarter acre in sixty-three minutes, and was awarded a special premium. As a general rule, however, we think skill and not speed is specially to be commended at plowing matches. The following extract from the report is all that our space permits us to give:

"Compared with former years the committee are of the opinion that a fair improvement has been made, both in the skill of the plowmen and in the superiority of the plows used. And yet in a county rich in agricultural resources as our own, and with a wheat soil unsurpassed by that of any other in the State, we ought, and with suitable encouragements might do better than we were permitted to witness on the present occasion. For the encouragement of this important branch of farm labor, the committee would recommend that great attention in future be paid to the selection of a uniform plot of ground—that the Society, if possible, increase its premiums—and that the award be divided equally between the plowman and the entering competitor."

The last remark refers to a much needed reform; for though no true gentleman would think for a moment of appropriating the praise or pocketing the money won by the skill of his hired help—yet, it would be best to award the premiums in the name of the plowman, and pay them to him in person.

Clover Seed.—Every farmer should make it a point to grow clover seed. Never be under the necessity of purchasing. If you have to pay a brother farmer or a city seedsman $4 or $5 per bushel for seed, you will probably be too sparing of it: you will not sow enough to the acre, nor sow so many acres as though you grew it yourself. It is a fact consistent alike with practical experience and theoretical science, that, other things being equal, the acreage yield of wheat, corn, oats, and barley, will be in proportion to the amount of clover grown and plowed under or consumed by stock on the farm. If possible, never sow a field to wheat or barley without seeding it down with 10 or 12 lbs. of red clover per acre. To do this, you must grow your own seed. Select a few acres of your *cleanest* land, say a piece that was seeded down with wheat after summer fallow. A dry, rather heavy loam is, perhaps, best. The first crop should be mown early. If cut in showery weather, the hay may be injured, but the clover for seed will grow strong and ripen the seed together. If dry hot weather follows the first cutting, the crop of seed ripens at different periods, and is generally very inferior, both in quantity and quality. Four bushels per acre is an average good crop. Frosts do not injure the seed. It may, therefore, be allowed to remain in the field late in the fall.

We have received from the publishers, Messrs. Crosby, Nichols & Co., of Boston, through Erastus Darrow, and Sage & Bro., of this city, by whom they are for sale, the following works:

Discourses on the Unity of God, and other Subjects.

This volume contains about a dozen Sermons upon topics of interest. They are written by Rev. Wm. G. Eliot, Jr., of St. Louis.

Regeneration. By Edmund H. Sears.

This work is divided into three parts: The Natural Man; The Spiritual Nature; The New Man; and is a fine work upon the subject discussed, and covers the Unitarian side of the argument.

Child's Matins and Vespers. By a Mother.

This little book is filled with prayers for children, for morning and evening, running through a month; added to which are the Commandments and comments upon them—also a series of verses from the Bible, and a number of prayers. It is a very pretty present for a child.

The Prophets and Kings of the Old Testament: A series of Sermons preached in the Chapel of Lincoln's Inn. By Rev. T. D. Maurice, Professor in King's College, London.

We have hardly had time to look over this volume, but a cursory examination makes us suspicious that it is a work of real and positive merit. We commend it to clergymen and lovers of religious literature.

Eclipse of Faith; or, A Visit to a Religious Sceptic.

Reason and Faith. By Henry Rogers, Author of "Eclipse of Faith."

Adventures in the Ozark Mountains of Missouri and Arkansas. By Henry R. Schoolcraft.

A work full of interest and instruction. Published by Lippincott, Grambo & Co., Philadelphia. For sale by Darrow.

Elementary Treatise on Book-Keeping. Containing four sets of books by Single Entry, and six sets by Double Entry. By J. M. Crittenden.

In this work principles are taught in a manner concise, simple, and complete. Published by E. C. & J. Biddle: Philadelphia.

Inquiries and Answers.

(G. Sharpless, Strickersville, Pa.) Pine sawdust is decomposed with great difficulty, and is worth very little as manure after it is decomposed. We have known it kept for five years constantly moist with liquid from the barn-yard without decomposition, and it was of no value as manure except as the means of conveying the liquid to the soil.

Draining Tiles.—Several correspondents have requested information in regard to the manufacture of draining tiles, the best clay, best shape, proper length, depth at which they should be laid, &c. On these points there is much difference of opinion, and we would like to have the views of our practical correspondents on the subject.

It is particularly desirable that the clay be free from stone. Some prefer clay that makes a very porous tile. This is, in our opinion, no advantage, the joints of the pipe affording ample space for the water to get into the drain. Clay that will make good brick, will make good tiles. On the relative merits of pipe and horse-shoe tile, much depends on the nature of the soil, length of drain—whether it is merely surface water or spring water that is to be carried off. The best underdraining we have ever seen was with horse-shoe tiles laid three feet deep *across the fall*, discharging into covered drains laid down the fall. The small pipe, however, work well, and are much the cheapest. With the inch and a half or two inch pipe, drains three feet deep need not be cut at the surface more than one foot wide, gradually narrowing to the width of a man's foot. We would lay the pipe *down the natural fall of the land*, and have them discharge into covered main drains laid across the fall, and let the main drains only discharge into open ditches. This is consistent with sound theory, and enlightened practice.

Draining Tile.—You will see that I live in the Maumee Valley, a country needing draining as much, perhaps more than most others. Farmers content themselves in making shallow, open ditches. This will not do; we lose one-third of our crops by surface water. In order to farm it successfully, we must have thorough under-draining. Many think it wont pay, but I wish to try the experiment on a small scale.

In the April number of the *Genesee Farmer*, 1852, page 109, you give the internal dimensions, but not the whole diameter of the pipe. How thick should the metal be to be most durable? What length should they be? Are they made of the same material as brick? Will two-inch pipe answer for leading drains? You will much oblige a subscriber by answering the above questions in the next number of the *Farmer*, as I wish to contract for pipe to drain with next fall or spring. Jarvis Gilbert.—*Springfield, O.*

The thickness required depends somewhat on the clay used and on the size of the tile. The inch and a half or two-inch pipe are about half an inch thick. The horse-shoe tile are from half an inch to an inch thick, according to size; 12 to 14 inches is the usual length. They are made of the same kind of clay as brick. It is very essential that it be free from stone. A good tile will ring like cast iron. As a general thing two-inch pipe will not be large enough for main drains, or drains into which a great many sub-drains discharge their water. The four-inch horse-shoe tile are best for this purpose, and in some cases it is necessary to have even larger, or what is sometimes done, invert the lower tile and place another tile on the top so as to make a pipe. Such a main drain will carry off an immense quantity of water, and is seldom needed.

At a low estimate, no doubt your crops would be increased one-third by judicious and thorough under-draining. On land worth $60 an acre undrained, an expenditure of $30 per acre in draining cannot but be profitable. Much less labor is required to cultivate a well-drained than an undrained farm, while the annual yield would be at least one-third more; and this one-third increase is nett profit.

Straw Manure.—I wish to know how I can convert straw into manure in the best and quickest manner. I have heard that if composted with lime, it would soon *come out manure*. But I do not know in what manner to apply it, nor in what state the lime should be, nor the quantity to be applied to a given quantity of straw. Any information in the matter will be most thankfully received. Dwight Bassett.—*Oakland, Wis.*

Straw alone will not make good manure. It does not contain the necessary ingredients in sufficient quantity, and therefore no process of fermentation can convert it into good manure. Its chief manurial value consists in its absorptive quality. It will hold a large quantity of liquid. When judiciously fermented with the liquid and solid excrements of animals, the whole mass is converted into first rate manure. The urine of itself is a most powerful fertilizer, but it needs fermentation before it is fit food for plants. When straw, solid and liquid excrements, are fermented together, the gases eliminated by the decomposing urine act upon the mineral matter of the dung and straw, rendering it more soluble, so that the mass thus fermented is far better than it would have been had each substance been added to the soil separately.

It is easy to rot straw by mixing with it lime or unleached ashes, but it is a species of *combustion* that no sane man will practice. A much cheaper process would be to set fire to the straw, and afterwards, if lime is needed, mix lime with the ashes and spread them on the land.

We affirm that a mass of straw thoroughly fermented, in conjunction with lime, is of little, if any, more value than would be its ashes mixed

with the same quantity of lime, and that the ashes of straw will be found of no value on most wheat soils.

SUMMER FALLOWS FOR WHEAT.—We have recently been discussing the merits of two systems of preparing land for wheat: one, breaking it up early in the spring, plowing cross the furrows again in July, and again immediately before sowing; and the practice beginning to prevail here to some extent, of plowing but once and cultivating twice, to kill the grass, &c. I would like to know your opinion on this subject. A BUCKEYE.

The nature of the soil has more to do with this question than anything else. Unless to destroy weeds, summer fallows are inadmissable, in good practice, on light sandy soils. On the other hand, heavy loams or clays are always summer fallowed for wheat with great advantage. There are few *heavy soils*, if underdrained, but what will yield a first rate crop of wheat after a good summer fallow. It is, however, the opinion of many of our best farmers in this neighborhood, that even on heavy soils plowing under a crop of clover in full bloom, and cultivating and harrowing the land to keep down weeds, &c., and then putting in the seed with a cultivator, is better for wheat than summer fallows. On sandy soils such is undoubtedly the case; and though on clayey soils the gain by plowing in clover is not so great as on sandy soils, yet we are inclined to think it a better practice than summer fallowing.

We should like the opinion of our readers on this subject.

I have a spring some hundred rods or more from my house, which I have brought in pine pump-logs. They are now nearly decayed—so much so, that I am compelled to relay them this season with logs or other materials. I have it in my mind to put down cement. Some say put down lead. I do not exactly like lead. My first objection is, that the distance is so great, and the spring is not over large, that it would be unhealthy; and second, that it would be too costly. Have you, or any of your correspondents, had any experience in the use of cement? and if so, I would like to hear from them through your journal as to the probable cost per rod. The digging is such as we usually find on the Genesee river.

Should I adopt the cement as a material, I will give the cost, &c., to your readers through the *Farmer*, should any one desire it. D. P. BROOKS.—*Fillmore, Allegany county, N. Y.*

Water containing lime, as all spring water does to some extent, is not tainted by passing through or standing in leaden pipes or vessels. On the contrary, pure water or rain water will dissolve, under certain circumstances, a considerable amount of lead; such water is always injurious, and sometimes proves fatal to those who drink it.

ALVA WILCOX, of West Bloomfield, N. Y., makes, or did make, clay pipes about 1½ inch in diameter, which are cemented together, and thus form a first rate conduit for water, &c.

Will our correspondents give us their views on this subject?

CORN PLANTERS.—Can you inform me where I can procure a Corn Planter for planting in hills? Are the Seed Planters advertized by E. D. HALLOCK and others arranged for planting corn, and who manufactures the best article? D. F. LAINE.

The Seed Planters of E. D. HALLOCK are not arranged to plant corn. They will sow it in drills, if required, but are not recommended for that purpose. They are intended to drill small seed such as carrots, beets, onions, ruta bagas, &c. We have used one this spring and can confidently recommend them. There are quite a number of corn planters possessing many excellent qualities. It might be invidious to select one as the best out of so many good ones. EMERY'S Corn Planter and Seed Drill, advertised in this number, has been extensively used and is well recommended. J. GANSON & Co., of Brockport, N. Y., manufacture one that plants two rows at once. We hear this well spoken of. Many others deserve mention did space permit.

You did not give your post-office address, or we would, as you wished, have answered by private letter.

MANURES.—Will you be kind enough to inform me which is the best work now published on the composition and application of manure. I am anxious to procure more information than I at present possess on this all-important subject to the farmer. I have been a reader of your paper for two years past, and the more I read the more I am convinced of my ignorance in relation to my business. I am anxious to learn, and any information will be gratefully received. HORACE FORD.—*East Cleveland, Ohio.*

Stockhardt's Chemical Field Lectures for Agriculturists, contains as much and as reliable information on this subject, as any single work within our knowledge. In *theory*, it is, in our opinion, the *best* work written on the subject of manures. The practical application of theory is, perhaps, somewhat at fault for this country. The *Progressive Farmer* contains, also, much valuable information on this subject, although, in our opinion, some of its theories are unsound.—*Dana's Muck Manual* is also a most excellent work.

Any of the above works can be had at this office, or from most booksellers.

IN the May number of the *Farmer*, reference is made to the fact of a Mr. SMITH *forking* his ground to the depth of eighteen inches, and obtaining immense crops by so doing. The subscriber, as well as others in this section, will be pleased if you will give some hint at Mr. SMITH'S method in so forking his land, as well as the implements used in the process. JOHN GEORGE.—*Woodcock, Pa.*

"Forking" bears the same relation to spading that handling manure with a dung-fork does to the use of a shovel or spade for that purpose. To till the ground eighteen inches deep, Mr. SMITH spades or "forks" it twice the length of the tines or blade of the implement. A fork for digging up the earth differs somewhat from a dung-

fork, being heavier and stronger, and put to severer work. A machine has recently been invented in England for digging, which operates something like a clod-crusher, and is driven by horses, which is said to be a valuable improvement.

Please give us some information in regard to clover hullers. As clover is becoming more extensively grown, it is important that we have a better machine in this country. With the one that we now have (Mansfield's patent), if we thresh fast, say 30 bushels per day, it cuts the seed badly. If there is a better one in your State, we would like to hear of it in the next number of your excellent paper. I have a quantity of barnyard manure in heaps, quite fine, intended for spring crops, but on account of wet could not get it out. Now, to use it for a wheat crop on sandy land, which we plow but once, and turn under clover, would you spread the manure and plow it under, or plow first and then spread the manure and harrow it in? EASTON.—*Lima, Mich.*

Spread and plow in manure on sandy land, rather than plow first and harrow it in.

In regard to the best mill for grinding clover chaff from the seed, we cannot speak with confidence, and desire information from some of our numerous readers who are familiar with the subject.

What is the best method of constructing bee hives, so as to keep out the worms? What is the best mode of keeping them out of all kinds of common box hives? and what is the best mode of eradicating the evil when it already exists? J. MISHLER.—*Mogadore, Summit Co., Ohio.*

Hundreds, perhaps thousands, have taxed their wits to attain the objects indicated in the above questions; and who among the whole has best succeeded, we can not say. Can not some reader aid us, and all bee keepers, by throwing light on this subject?

I have been wishing to see a treatise on the best known treatment of sorrel. It is a crop of a good deal of importance with us, and yet I have heard but little said about it. Some imagine that where it grows there is a sourness in the land, which, if corrected with lime or ashes, it will stop growing. Will those who can throw light on this subject, and like to see our country improving, impart their knowledge to your columns?

I have heard it said that there are saws sold in Rochester for horses to saw wood in the log with; I would like to know if it is so, and also the thickness and general plan of the saw. Stove wood, stave-bolts, heading, and shingles, in my opinion, should be *sawed in the log*. If you ask in what way, I answer, by horse-power is a good way, and it is easily connected with a threshing power. Once get a crank on the belt-wheel of the power by a strip of wood each side of the wheel, and a bolt through them for a crank: or otherwise, a pitman on the crank, and the other end swinging a pendulum, and another pitman from the pendulum to the saw. The saw may be a cross-cut, strained like a buck; or, what is better, a hand-saw large enough for horses. One or two horses can saw from six to ten cords of stove wood in a day. I have sawed a cord of hard maple by sheep-power and one man assisting to split it, in less than two hours. If you wish the wood about two inches square, turn the block on end and slab and plank it two inches thick across the log; then string it along on a rail, and you can finish the splitting in short order, and it lies in a good position to pile or load up for market. I have sold considerable for one-fourth more than *cord* wood cut for the stove. Almost any wood can be split, if sawed into logs only 15 or 18 inches long.

I would like to see some further observation on cutting wood by horse power, as I have no experience either in making or using.

I have used a good sheep-power with one or two sheep weighing from 100 to 180 pounds, and there is no room for complaint but what it pays well for the small expense, and if I did not wish to saw considerable for other folks, would be contented with it for years to come as I have for five years back.

I wish some one would tell us how to build a milk-room, so that it would be sufficiently cool and dry to get the best cream. The making of a large quantity of butter from a given number of cows, I imagine, is understood by but few and practiced by less. N. N.

RATS.—I am troubled in no small degree with what some call the dock or wharf rats, and how to get clear of them I know not. Various things have been tried, but all seem to fail of clearing them out. If any of your subscribers know of anything that will exterminate them, if they will let it be known through the columns of your valuable paper, they will confer a favor on JAMES M. BRADBURY.—*Sparta, O.*

HORTICULTURAL.

(C. L.) SEXES OF THE AURACARIA, DEODAR, AND CRYPTOMERIA.—The Auracaria has the male flowers on one tree and the female on the other. The latter, it is said, does not attain more than one-third the size of the former. The Deodar and Cryptomeria have, we believe, both male and female flowers on the same tree.

(ROSE BUSH.) The leaves enclosed appear to have been injured by some insect, but that may not be the cause of their dropping. You should examine the roots, and see if all is right there.

(Mrs. W., Moscow.) NAMES OF PLANTS.—The flowers inclosed are those of the Japan Quince (*Pyrus Japonica.*) There are two sorts—the scarlet and blush. It can be propagated by cuttings of the roots, and by grafting on the common Quince or on the Apple.

FLOWER SEEDS.—The supply prepared by Mr. VICK, the publisher, was very large, yet not large enough to meet all the demands. Several applications, we are sorry to say, have to lie over, as seeds could not be purchased here to supply them.

GRAPES.—I beg to say that I lately read in a Provincial newspaper an extract from a late number of *Hovey's Magazine*, an account of a new seedling grape, said to be fully equal to the *Isabella*, and ripens at least one month earlier. Can you inform me, through the *Farmer*, whether this species of grape has been propagated to any extent, or where I can procure one or more of the vines? (1)

Also, please to say whether the *Diana* grape ripens much earlier than the *Catawba*, and whether it is a hardy grape? (2) J. K.—*Cavan, C. W.*

(1) We are not aware of its being propagated to any extent. Messrs. HOVEY & Co. can probably give the information.

(2) The *Diana* is quite hardy, and ripens ten days or a fortnight sooner than the *Catawba*, under the same circumstances.

CATERPILLARS.—En rout to California I noticed, through most of the road, that our common caterpillars (web) were found on the Cherry (Choke) and Plum trees. In this country the wild Cherry is always full of them. On the plains, other trees never, or very seldom, held a web. Do the Plum and Cherry produce them, or are they only more attractive? J. W. OGLE.—*Prairieton, Ind.*

They do not produce them, but are more attractive as food.

Our Cherry trees are dying in this vicinity; they become filled with black excrescences, similar to the Plum. (1.)

I have noticed for three seasons past, that when the tree arrives at its full vigor in the summer, the leaves become infested by myriads of small green flies, or bugs, on the under side, causing them to curl up and decay. Please state the manner of treatment to get rid of the evil. (2.)

The land is a gravelly loam, with clay subsoil; trees common Cherry. Our Plum trees flourish a few years and then decay. Pear and Apple trees thrive, and live to a good old age. J. A. Q. SOUTH.—*Fultonville.*

(1) Cut out these excrescences as soon as they appear. We have never seen them on any cherry except the common sort called the "pie" cherry.

(2) These are *aphides.* Easily destroyed by syringing the trees freely with a pretty strong solution of tobacco mixed with soap suds.

New York State Agricultural College.

THIS Institution was chartered by the Legislature of the State of New York, for the purpose of presenting to Agriculturists the means for acquiring a knowledge of the Arts and Science appropriate to their vocation; to prepare Students for practical active labor, by training the mind in a system which shall inculcate an intimate acquaintance with the sciences essential to agricultural success.

To insure the development of principles and their application to the soil, the Legislature has required the purchase of not less than three hundred acres of land.

The Trustees, having accepted the trust confided to them by the Legislature, organized the State Agricultural College, by the following appointments:

JOHN DELAFIELD, President of the College.
Hon. JOHN A. KING, Chairman of the Board of Trustees.
JOEL W. BACON, Secretary.
N. B. KIDDER, Treasurer.

At a meeting of the Board, on the 4th of June, a Report was presented by B. P. Johnson, from a special committee on the Location of the College, declaring "that after an examination of the Oaklands Farm in Seneca county, they are entirely satisfied that the price asked for it, is its fair value in the market, for farming purposes; that it is, by previous preparation, by position and variety of soil, in every respect adapted to the objects of the Institution; that the title is perfect, and recommend that the chain of title be entered at large on the minutes of the Board," &c. This farm is situated mid-way between the market towns of Waterloo and Geneva, in full view of the Seneca Lake, and overlooking the village of Geneva; elevated about 125 feet above the level of the Lake, it is free from causes disturbing health; its soil varies from a strong clay to a sandy loam, presenting varieties sufficient for testing by experiment every doubtful question in relation to soils, and to exhibit the most approved system of cultivation.

The Trustees are prepared to receive from farmers and friends of agriculture, proposals for the Capital Stock of the Institution, which will be distributed in shares of fifty dollars each, payable

10 per cent. on subscribing.
40 " 1st July.
50 " 1st October.

The Trustees may be addressed (post paid) at their respective residences, as follows:

Hon. JOHN A. KING, Jamaica, Queens county.
HENRY WAGER, Westernville, Oneida county.
B. P. JOHNSON, Agricultural Rooms, Albany.
WM. KELLY, Rhinebeck, Duchess county.
N. B. KIDDER, Geneva, Ontario county.
JOEL W. BACON, Waterloo, Seneca county.
TALLMADGE DELAFIELD, Geneva, Ontario county.
WM. BUEL, Rochester, Monroe county.
JOHN DELAFIELD, Oaklands, Seneca county.

The Officers of the College will endeavor to present subscription books in each county, that the College, so entirely agricultural and peculiarly the Farmer's institution, may find its support widely diffused throughout the State.

The President will, upon application to him, give all needful information in relation to the ordinances, rules and regulations of the College, and the course of instruction to be pursued.

By order of the Board of Trustees.
JOEL W. BACON, Secretary.

Another Review of the Geneva Trial of Horse Powers, &c.

I HEREBY make my statement in relation to the Geneva Trial of Machines.

In the first place, I have a few words to say in relation to the report, and also the course of the committee. I would here state, that there were only three men that constituted the examining committee on Threshing Machines; they were J. S. Gould, J. E. Holmes, and Gen. Harmon. The report of the committee was not according to the record as taken at the trial, and kept by Mr. J. S. Gould. They make a reduction of more than 30 per cent. in the operation of my machine from the record as they kept it at the time; and this was the only experiment, excepting the threshing, that had any merits in it. Mr. Gould told me, just as I started to leave Geneva, that in looking over his minutes, he thought they had made a mistake, as his account gave me more power than in some other experiments, and placed my machine ahead of the others. I wrote to him afterward, and proposed to have the experiment tried over again at the State Fair at Utica, which he assented to, and I believe that the notice of the same was given to the others.

I took my machine to the Fair as agreed, and the others were brought there also. When the committee came to make the trial, they took an entire different course from what they had done at Geneva, and I could not prevail upon them to try the Geneva experiment over again, to see whether they had made the blunder that they report was made, (or the one that was made by their report.) It seemed as if they now knew what course was necessary (from the Geneva trial) to take to make the experiment appear favorable to the Emery power; in this they were some disappointed, as their plan placed Badger's ahead; but this they got around by saying that Emery's was made in a superior manner, which they could not say of mine.

Their correction of the minutes as kept at Geneva, made it into an error, as was manifest to any observing person. Taking it as they reported, it would only require a movement of the platform of 1½ of a mile per hour; the persons on the power, and others looking on, could plainly see that they were walking much faster than that.

There is another thing in relation to one of the committee (Mr. Holmes), that was not right in appearance, and that is, he said or stated, at the State Fair, that Emery was to exhibit his machines (the Dick anti-friction presses) at the Ohio State Fair the next week; this showed such a combination of interest, that there was some danger of having his judgment biased in making up his report; to say the least of it, it made him liable to suspicion of partiality.

After the committee had concluded upon their report, and one of them, Mr. Gould, had left, as I was informed, I called upon the other two, (not as a committee,) to come and see if they had been justified in making the error (by correcting one as they said) in the report of the Geneva trial. One of them declined, the other promised to re-examine, but failed to do so for some cause or other. Thus much for the committee and their report.

I will now examine the experiments made at Geneva.—In the first place, I will state that the machines under review—that is, mine, Emery's and Badger's—were all new, and had not been used before. Emery's had some things about it to please the eye of some lookers-on, and perhaps some of the committee, such, for instance, as the turning of a bolt and nut, all of no practical use, and rarely, if ever, done by any threshing machine builder. Emery obtained some advantage over the rest by having a team (belonging to one of the committee, as I was informed) employed for the week, which enabled him to keep experimenting with his machine, and to learn when it was ready for use, and thereby smoothing up his machine to his advantage in the experiments to be made with it. He altered and repaired and experimented until Thursday afternoon, when he threshed his 100 sheaves under the direction of the committee; this took him 17 minutes, with his concave raised three-fourths of an inch—consequently he did not thresh his grain clean from the straw, as I learned the next day, by putting some of his straw through my machine.

The next morning I obtained a team to make my experiment in threshing. This team had never been on such a power before; when they came, I put them on to see if my power would work, not knowing anything of its operation only from appearance, as it was the first one of the kind that had ever been put in operation. To try it, I got some of the straw threshed by Emery the day before, and put it through my machine. I left my concave close to the cylinder, seeing that Emery did not thresh his clean with his up.

The committee now determined to have the grain weighed in making the experiments. They allotted to me

954 lbs. on my first trial, which took me 13 45-60th minutes, and gave 200 lbs. wheat. On my second trial, I had 748 lbs., and was 9 minutes in threshing, and had 136 lbs. wheat (not 166 as the committee reported.) This last 100 sheaves had two kinds of wheat, of nearly equal proportions; one kind was weevil eaten and rusty, and green, with very little wheat in it—the green kind was quite small sheaves; yet I could not thresh them much more than half as fast as I could the other kind. In this last experiment my concave was raised one-fourth of an inch. After the wheat on my first trial had been taken up and weighed by the committee, I found that they had left considerable on the ground—I should think 6 or 8 lbs., thereby diminishing my yield to that extent.

Emery, on his second trial, had allotted to him 810 lbs., taking 10 40-60th minutes in threshing, and gave 169, lbs. wheat, (including what might have been gathered from his first threshing,)—his concave about the same as on the first trial of his machine. Badger had 850 lbs. allotted to him, which took him 17 40-60th minutes, and gave 156 lbs. wheat.

In both of my experiments, I labored under the disadvantage of an imperfectly operating riddle, it having too stiff a spring for a pitman, which caused it to jar a great deal when running fast; this caused me to run my cylinder 100 revolutions per minute slower than Emery did his, when it should have run 100 faster, with the same movement of the platform. This caused the horses to perform one-eighth less labor than on Emery's in the same time. Taking this into consideration, I threshed my first with less power, according to the quantity threshed, than Emery did his second, and that with his concave up; and the last 100 sheaves there was no chance for him to dispute its being threshed quicker than his, and also better. If these experiments do not prove the superiority of my machine over Emery's and all others, then I wish the committee would inform me what would.

The experiment in which the committee altered their account (and making an error thereby), was in trying the several machines with six men on them, weighing 925 lbs.; the machines in the same position as when threshing.—Mine gave 350 revolutions, as I noted at the time—356 as the committee noted at the time, and 256 as reported. The 356 as noted by the committee, would give about 2,250 revolutions of the cylinder. Emery's gave upon the second trial 240 revolutions of band-wheel, and about 2,100 of cylinder. My cylinder was 15 lbs. heavier than his. These experiments again showed a decided superiority of my machine. The great difference in the gearing between my horse power and the others, my band-wheel turning three times to either of the others twice, with the same movement of the platform, which permits me to use a much smaller band-wheel and larger pulley on the cylinder, which enables me to use a much slacker band, causing less friction thereby, which is one of the causes of the superiority of my machine.

The other experiment made could form no correct data to judge of the merits of the several powers, as there was so much difference in the movement of the platform to each turn of the band-wheel: in order to have made an equality in the experiment, the powers should not all have been at the same elevation as they were, but should have been so elevated as to have caused the same perpendicular descent of the weight on the several powers to each turn of the band-wheel; this would have elevated mine near six degrees higher than Emery's, and about five degrees higher than Badger's; by this it is plain that my power would have far exceeded either of the others. As it did exceed Badger's, and fell but little behind Emery's, in the experiment, with two men on it weighing 269 lbs., it gave 356 turns to my band-wheel, and 18 lbs. hold back; and gave 292 turns of Emery's, with 27 lbs. hold back.

At the State Fair at Utica I had again a new machine, which I was taking to a man in that county, to whom it had been contracted to before leaving home. Badger brought one, which he said that he had run sufficient to smooth it up, and that he meant to prepare this time. Emery had the same one (as he said) that he had at Geneva, which he had run sufficient after leaving Geneva to make it run in its easiest manner. Soon after setting my machine, the committee came to try them; they said that they had concluded to try all the horse powers with the same machine; they declined to try them the same as was done at Geneva, to know whether they had there made an error or not. They put five men on each horse power, weighing 714 lbs., attached to the same machine; mine gave 1,890 revolutions of cylinder, Emery's 1,996, with 38½ inch band-wheel, and 1,886 with his 42 inch band-wheel, and Badger's gave 2,160, his band-wheel being 36 inches. Each turn of the platform gave motion to the cylinder as follows: Mine 192; Emery's 158; Badger's 151. This shows that they both had more descent of the platform than mine, and thereby applying to each turn of the cylinder, equal to the difference in the motion of the platform, an increased amount of power. My power should have been elevated about 2½ degrees higher than that of Emery, and about 3 degrees higher than Badger's, to have given the same perpendicular descent to each turn of the cylinder; this would have been sufficient, even with my new power, to have equalled either of the others.

The platforms of Emery's and Badger's powers moved more than twice the distance in a minute that mine did in this last experiment, consequently descended more than twice the perpendicular height, thereby consuming more than twice the amount of power; yet they did not accomplish only about 1⅓ of useful service. After the committee had got through with their experiments, I went to using my machine in threshing some, and in running the portable grist mills, which use caused it to run much easier than when the committee made their experiment. I then made some more experiments. I first tried to see what weight it would take to move it. We found that two men weighing about 360 lbs., would give the cylinder about 400 motions per minute; by adding another man of 160 lbs., making 520 lbs., it gave about 1,100 revolutions of cylinder. We then added another man of 133 lbs., making 653 lbs.—this gave about 1,800 revolutions. This showed a decided gain over the experiments of the committee, and exceeded the others according to the weight on the power.

As a proof of my faith in the superiority of these machines, I will let any person have one (who has a reputation for honesty, and has one of Emery's or Badger's,) of these machines upon trial—and if upon a fair trial he does not concede it superior to either of the others, he may keep it for his trouble. GEORGE WESTINGHOUSE.

Central Bridge, May 6, 1853.

These machines are made by G. Westinghouse & Co., at Central Bridge, Schoharie county, N. Y., to whom all orders should be addressed.

They also make a combined Thresher and Cleaner, to be used with the two-horse power; and Cleaners for the large lever powers.

These machines are warranted to give satisfaction to the purchaser upon trial, or they can be returned and money refunded. The prices for this season will be for—

2 horse power and separator,	$220 00
2 horse power and riddle,	150 00
1 " " "	130 00

The above prices include straps, and all things necessary to operate them. Single, the prices will be, without any driving straps, for horse power—

2 horse power,	$110 00
1 horse power,	90 00
Separator,	110 00
Thresher and riddle,	40 00

We will deliver the two-horse power and thresher and riddle, at any point on the railroads or canals in this State for $8, or horse power and separator for $10.

July, 1853.

Extra Improved Superphosphate of Lime for Sale.

THE subscriber, at additional expense, has recently made important improvements in the manufacture of this well tested and valuable manure, and is now prepared to furnish an article assuredly equal, if not superior, to any in the market, at the lowest cash prices.

Put in bags of 50, 100, and 150 lbs. each, and branded "No. 1 Superphospate of Lime." Manufactured and sold by WM. PATTERSON,

Divison Street Wharf, Newark, N. J.

AGENTS:

Haskell, Merrick & Bull, 10 Gould-st., N. Y.
H. Emery, Esq., Agricultural Warehouse, Albany.
Phittier & Fuller, Hallowell Maine.
E. Green, Esq., Easton, Penn.
S. Chase, Esq., Middletown, Conn.'

July, 1853—4t.

Seedlings, Fruit Trees, &c.

EIGHT acres of Apple and Cherry Seedlings by the 1000 or acre. Also, Seedlings, and grown trees of Mountain Ash and common Fruit Chestnuts; 20,000 Apple—best varieties—grown trees; 6,000 Cherry—best varieties; 5,000 Peach—best varieties; 40,000 Apple and Pear, one year from graft; 1,000 Plum, one year, on plum stock; 2,000 Cherry, one year. Strawberry Plants by the 100, 1,000, 100,000. THOMAS WRIGHT.

Macedon Nursery, Macedon, Wayne county, N. Y.

July, 1853.—1t*

THE HORTICULTURIST;

And Journal of Rural Art and Rural Taste.

EDITED BY P. BARRY, AUTHOR OF THE "FRUIT GARDEN."

THE *Horticulturist*, as its name implies, is devoted to Horticulture and its kindred arts Rural Architecture and Landscape Gardening, and will keep its readers advised of every thing new on the subject, either in Europe or America. It is a Monthly Journal of forty-eight pages, beautifully printed on the finest paper and elegantly illustrated. In addition to numerous wood engravings, each number contains a full page engraving on stone, of some new, rare, and valuable fruit or flower, and is one of the most *beautiful* as well as the most useful Monthly Journals published in the world. We subjoin a few notices by the press, showing the estimation in which the work is held by our editorial brethren:

We are glad the work has fallen into such excellent hands.—*Louisville Journal.*

We feel that we are doing our readers a real service when we urge them to subscribe for this invaluable monthly.—*Weekly Democratic Press, Chicago.*

We congratulate the public on having so valuable a periodical as the Horticulturist within their reach.—*New York Day Book.*

Its contents are spirited and various, the selections judicious, the illustrations elaborate.—*New York Daily Times.*

A standard work of authority upon all subjects discussed or explained in it.—*Vicksburg Whig.*

There is no work in this country of greater value to the cultivator of fruits.—*Inquirer, Portland, Me.*

It is well got up; its articles able, various, and appropriate.—*Geneva Courier.*

Every man who has land enough for a garden should possess this work.—*Weedsport Advertiser.*

The plates alone are worth the year's subscription. The letter press is of a highly instructive character, and embraces a variety of topics. None who have a taste for the beautiful in nature should be without such a valuable publication.—*Hamilton (C. W.) Spectator.*

There is substantial profit as well as pleasure in cultivating taste in buildings, yards, gardens, &c., and the subscription price would be capital well invested by those who will attend to the contents of the Horticulturist.—*Daily Courier, Zanesville, Ohio.*

Any remarks of our own we fear would add nothing in comparison with the value of such a well conducted work. The plan of coloring the plates is decidedly beautiful, and no person interested in horticultural pursuits should be without it. It seems a wonder to us that horticulturists do not look more to their own interests, than to allow their monthly papers to be received without this indispensible accompaniment. The circulation ought to reach half a million. Although the number issued is already extensive, yet it should be increased, from the fact that it is a work of great merit.—*Port Byron (N. Y.) Gazette.*

This periodical is got up in excellent style, and well sustains its former reputation under its present management. *Middlebury (Vt.) Register.*

We are quite satisfied with the work, and are inclined to believe that, to the mass of readers, the work will be even more acceptible than it was under the charge of the accomplished Downing. We recommend the work cordially to the patronage of our friends and the public.—*Massachusetts Spy.*

Its contents embrace a variety of subjects, treated upon in the most scientific manner. The illustrations are numerous and well executed. We know of no other work of the kind on this continent that can compare with the Horticulturist.—*Daily Spectator, Hamilton.*

This magazine has lost nothing by falling into the hands of its present proprietor, Mr. VICK, of Rochester; for he maintains its neat typographical experience, while the new editor, Mr. BARRY brings to its editorial management abilities of a high order.—*Gazette, Keeseville, N. Y.*

The Horticulturist is almost invaluable to the fruit grower, and to the gardener, and it ought to be in the hands of every one. The new editor, Mr. BARRY, proves his eminent fitness for the post so lately filled by the lamented DOWNING.—*Watch Tower, Adrian, Mich.*

This publication embraces a wide field, and has something instructive for every reader. Its artistical embellishments and mechanical execution are of the highest order; for this we give credit to the publisher. Its editorials are practical, scientific, varied, and instructive. Its correspondence embraces some of the ablest horticultural writers in the Union.—*Register and Examiner, West Chester, Pa.*

This useful monthly, instead of losing interest as many feared it would in consequence of the death of its lamented proprietor and editor, Mr. DOWNING, continues to fully maintain its reputation. In fact the present editor and and publisher appear to be using their best endeavors to raise it higher in public estimation than before. It is an eminently practical work, and therefore well fulfills its promises. No one who has anything to do with gardens, trees, shrubs, plants, or flowers, should fail to be among its readers.—*News and Advertiser, Middletown, Conn.*

TERMS—$2 per year, in advance. The volume commenced on the 1st of January last, and we can supply back numbers from that time. Those who prefer can commence with the (half year) July number.

COLORED PLATES.—Still further to add to the value of the work, and meet the improving taste and increasing wants of the horticultural community, an edition is published with COLORED PLATES, each number containing a full page engraving of some new, rare, and valuable fruit or flower, correctly colored from nature by the best living artists in this line. This is a new and important feature, in this country. Price $4 a year, in advance.

Address JAMES VICK, JR., PUBLISHER, *Rochester, N. Y.*

Great Sale of Short-horn and Devon Cattle, and Southdown Sheep.

ON Monday, the 7th day of September next, at 1 o'clock, P. M., I will sell at my farm on Grand Island, six miles below Buffalo, about 30 full blood Short-horns, a few Devons, and about 30 high grade Short-horns and Devon cattle, consisting of cows, heifers, and young bulls.

The young Short-horns are chiefly the get of my imported bull, Duke of Exeter (10,152)—a bull not exceeded as a fine stock getter by any bull in the United States.

The young Devons are the get of the bulls Candy and Quartley, both imported by Mr. Stevens. The superior of these bulls in blood, style and breeding, is not to be found. Quartley is my present stock bull.

I will offer at the same time 50 pure bred Southdown sheep—rams and ewes; also, a few Middlesex pigs—both sheep and pigs the direct get of imported sires, from dams descended of late importations.

Catalogues will ready by the first of August, and will be sent, on application to me, by mail.

TERMS.—All sums of $100 and less, Cash; for larger sums, approved notes at 4 months, with interest, payable at bank, will be received, if preferred.

A steamboat will carry all persons wishing to attend across the ferry to the farm at 10 o'clock, on the morning of the day of sale. The stock can be viewed at any time previous, by calling on me at my residence in this place.

LEWIS F. ALLEN

Black Rock, July 1, 1853.—3t

A Valuable Farm in York County, Virginia, For Sale;

CONTAINING seven hundred acres of land, one-half cleared and in cultivation, and well adapted to all kinds of grain, vegetables, cotton, and tobacco. It has on it two dwellings, one a two story brick house, with basement, and seven rooms besides basement; the other a good framed house, with four rooms, two passages, and basement, with barn, stables, and all necessary out-buildings in good order. It is nearly enclosed with chesnut fence, and abundance of chesnut to enclose the farm with cross fences—water running through every field out of marl banks—and marl that cannot be *surpassed in the world* in the greatest abundance. The situation is as healthy as any *in the world*. The uncleared land is heavily set with Oak, Chesnut, Pine, Cedar, and Hickory, and situated in the upper part of York county, six miles north of Williamsburg, three miles from York river, and one mile and a half from a creek leading to York river. The present owner cannot give it the requisite attention.

PRICE—Ten Thousand Dollars, provided early application be made. THOMAS E. EVANS.

☞ Post office, Williamsburg, Virginia.

July, 1853.—1t*

Turnip Seed.

WE have just received from England our new supply of Turnip Seed, among which are

Five hundred lbs. Ruta Baga.
Five hundred lbs. White Flat Norfolk.
Five hundred lbs. White Globe.
Two hundred lbs. White Stubble.
One hundred lbs. Yellow Scotch.

All of which is warranted of the first quality.

J. RAPALJE & CO.,
July, 1853. 65 Buffalo street, Rochester.

Ketchum's Mowing Machine.

WE are now prepared to fill all orders for these justly celebrated machines, of which over seven hundred have already been sold this present season. For cutting grass with this machine we defy competition. For description &c., we refer to May number of *Farmer*.

Price of machine, $100 with one, and $110 with two setts knives. Transportation from Buffalo added.

J. RAPALJE,
July, 1853. 65 Buffalo street, Rochester.

Corn Cultivators, &c.

WE have now on hand a full supply of the best kinds of Corn Cultivators, Corn Plows, Hoes, &c., &c., to be found in the city—all of which we will sell low for cash, at the Genesee Seed Store and Agricultural Warehouse, 65 Buffalo street, Rochester.

July, 1853. J. RAPALJE & CO.

Turnip Drills.

WE have now on hand a full supply of the best kinds of Seed Drill. Price from $3 to $16, at the Genesee Seed Store, 65 Buffalo street. J. RAPALJE & CO.

McCORMICK'S REAPING AND MOWING MACHINE FOR 1853.

FROM the well known reputation of my Reaper in the hands of more than 700 farmers, and that it has maintained its high superiority wherever it has been fairly tested—having again, after a nine days' trial with Hussey's in England at the last harvest on the Royal Agricultural farm, which was the most extensive trial ever made with Reapers in any country, been declared by the able jury of English farmers as decidedly the best machine in every respect, and recommended to the farmer's of England as one on which they may safely rely to cut their harvest, and which since that time has been *greatly improved*, and its capabilities as a mower thoroughly tested, and which I am now prepared to warrant superior to any other, both as a Reaper and as a Mower—further testimonials of its superiority can hardly be necessary.

That Seymour & Morgan, Manna, and others, are making and selling *my machine, altered, much to its prejudice*, with the hope of avoiding the responsibility of infringing my patent, is the best evidence of the superiority of my own. They will be held responsible, and arrested in their course as soon as the law which is sure can reach them. Those purchasing and using their machines become liable with them.

To convince any responsible farmer (who is in doubt which is the best machine) of my confidence of the superiority of my own, I will permit them to take one of mine with one of Hussey's or Burrall's on trial, to keep the one preferred; and am ready to submit to the same test such points in other machines, claimed as improvements, that are not my own.

The new improved Reaper and Mower will be forwarded to any part of the State or Canada, if ordered before the stock on hand is exhausted, of THOS. J. PATERSON, Rochester, Office No. 6 Burn's Building. Price $110 cash, or $30 on delivery and $85 on time, and $25 cash extra for mowing attachment, or $30 on time. Subject to freight from Buffalo.

Some few reapers of last year, an excellent article, can be had at $100 cash and $105 on time.

For further particulars see handbills.

Rochester, May 20, 1853.

Employment for Young Men.—Book Agency.

D. M. DEWEY, Arcade Hall, Rochester, has, during the past nine years, employed several hundred young men in the sale of books, and is now more extensively than ever engaged in the sale of good and valuable books by traveling agents. The following are a few of the books now offered:

Uncle Tom's Cabin, in paper, retail,	38
Sequel to Uncle Tom's Cabin, in paper, retail,	25
Key to Uncle Tom's Cabin, " "	50
Youatt on the Horse, the best work on the Horse,	$1 50
Barry's Fruit Garden, the best work on Fruits,	1 25
Life of the Empress Josephine, by Headley,	1 25
Dick Wilson, a new Temperance work,	1 25
The Australian Captain, a book of facts,	1 25
Chemical Field Lectures—Agriculture,	75

Bibles, New Travels, Histories, Biographies, Agricultural Books, Novels, Pamphlets, &c., &c., all of which are put to agents at the lowest cash prices—and agents are indemnified against loss. A small cash capital of from $15 to $80 will be required, and the agent can earn from $1 to $5 a day, depending upon his adaptation to the business.

N. B.—Orders for any Book wanted, with the price of the book enclosed, will be promptly answered by mail, and the book sent free of postage.

Subscriptions received for all American and Foreign Periodicals. Address D. M. DEWEY,
May, 1853. Arcade Hall, Rochester, N. Y.

Garden and Field Seeds,

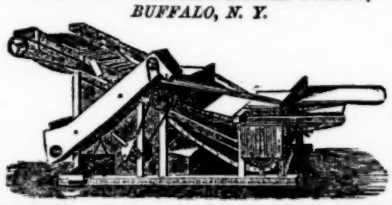
FROM the new establishment of VANZANDT & BOWDISH, No. 114 State street, Rochester, N. Y., can be purchased of the merchants generally throughout the country, in papers or packages, on reasonable terms. Also, at the Agricultural Warehouse of E. D. HALLOCK, No. 24 Exchange street, Rochester, N. Y.

The Seeds from this establishment can be relied on as being of the best quality. They are mostly imported, or grown for us by the *Eastern Shakers*, and are warranted good and true. Full directions for cultivation printed on each paper and package.

VANZANDT & BOWDISH.

Rochester, May 1, 1853.

AGRCULTURAL IMPLEMENT MANUFACTORY,
CORNER OF CAROLINE & THIRD STREET,
BUFFALO, N. Y.



Pitts' Patent Separator—Improved Double Pinion Horse Power—Pitts' Corn & Cob Mills, &c.

I HEREBY give notice that since the extension of the patent right on my Machine for Threshing and Cleaning Grain, I have removed to Buffalo, N. Y., where I have permanntly located, and erected a large establishment for the future manufacture of the above Machines.

The Separator has been enlarged, improved, and rendered more permanent and durable in all its parts, while the Horse Power for strength, ease, durability and cheapness of repair is not surpassed by any in the United States. This Power is warranted to stand the full strength of eight horses—also to give as much effective or useful power when driven by one or two horses as any other Horse Power, whether constructed on the endless chain or lever principle. It was put on trial at the great exhibition of Horse Powers and Threshing Machines at Geneva, July last, 1852, where it received the New York State Agricultural Society's First Premium "for the best Horse Power for general purposes." The Separator, at the same trial, also received the Society's First Premium.

My Machines will thresh and clean from three to five hundred bushels of wheat per day, and other grain in proportion.

Two hundred of the above Machines are for sale at the Agricultural Works of the subscriber in this city, all warranted to be a better article than can be purchased at any other shop, and if they do not prove on trial to be so, I will take them off the hands of the purchasers at the price they may pay me for them.

I further notify all persons who are purchasing Horse Powers and Separators to be used in California or Oregon, that I will hold them accountable for any infringmants of the rights secured to me by letters patent in the above Machines, as I am manufacturing a Horse Power and Separator expressly designed for that section.

All orders for the above Machines hereafter addressed to JOHN A. PITTS, Buffalo, N. Y., will receive prompt attention. JOHN A. PITTS.
May, 1853—tf. Buffalo, N. Y.

French Zinc Paint.

THIS new and beautiful article of Paint is now offered to the trade and public, ground in prepared linseed oil, for the first time in this country. It has been used successfully in France for the last five years, where it has superseded white Lead as a paint.

The French Zinc when properly prepared and used, makes the most brilliant and durable white in use, and is entirely free from all poisonous qualities.

The French Zinc is not more expensive than white lead, and is prepared in such a manner that it requires no farther preparation for use, than to thin it with Turpentine or raw Oil to the consistency of white lead paint.

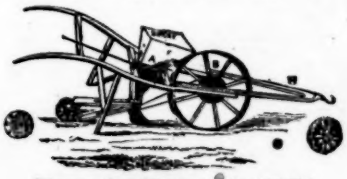
The French Zinc is very much whiter, and has a better body, than the New Jersey Zinc.

The French Zinc is offered dry, and prepared as above, in quantities to suit purchasers, at the Manufacturer's Depot, No. 17 Buffalo st., Rochester, N. Y.
July, 1852, M. F. REYNOLDS.

Fertilizers.

Peruvian Guano, $45 per ton.
Superphosphate of Lime, 2¼ cts. per lb.
Bone Sawings, or Meal, $2.50, per brl.
Turnings and Crushed, $2.25 "
Pulverized Charcoal, $1.00 "
Potash Scrapings, 3½ to 4 cts. per lb.
Plaster, ground, $1.12½ to 1.25 per bbl.
Sulphuric Acids, 2¼ to 2½ cts. per lb.
For sale at the State Agricultural Warehouse.
LONGETT & GRIFFING.
June 1, 1853—4t. No. 25 Cliff street, New York.

HALLOCK'S Ag'l Warehouse and Seed Store.
No. 24, Exchange street, Rochester, N. Y.



[Emery's Corn Planter and Seed Drill.]

THE subscriber, late from the establishment of Emery & Co., manufacturers at Albany, where he has been engaged for the past six years, has been appointed their SOLE AGENT in Rochester and Western New York, for the sale of

Emery's celebrated Railroad Horse Powers and Threshing Machines; Circular and Cross-cut Saw Mills, Feed Mills, Corn-stock and Hay-Cutters, &c.

adapted to the Power, and now offers them at manufacturer's prices, with the transportation added, and subject to the warrantee, as follows: "To work to the satisfaction of purchasers as represented in circulars and catalogues, or to be returned within three months, and full purchase money to be refunded." The attention of farmers is solicited, and a careful investigation into the construction of this Power and its comparative merits, as well as price requested, before purchasing elsewhere. He is also agent for their

COMBINED REAPER AND MOWER,

and keeps constantly on hand Plows, Hay-Cutters, Corn Shellers, Seed Planters, &c., &c., comprising a complete and extensive stock of Agricultural and Horticultural Implements generally, together with a full assortment of Field and Garden Seeds, of the best Imported and Shaker growth.

He is also agent for the sale of Seymour's Grain Drills and Broadcast Sowers, Wheel Cultivators, Gang Plows, Clover Hullers, Cider Mills, Clover Gatherers, Horse Rakes, Scythes and Snaths, Hand Rakes, Grind Stones, &c.

He will be prepared to furnish dealers with Drum and Taylors's well known Scythes; also Manure, Straw, and Hay Forks, Snaths, Rifles, and other haying tools at manufacturers's prices, wholesale and retail.

Particular attention is called to a NEW PLOW, which is believed to be the best cast iron Plow ever offered, and which is warranted to do better work, with less expense of team, than any other Plow heretofore sold in Rochester—while the price is less than any other equally well finished.

The "uniform one-price cash system" will be adopted, with prices as low as the cost of articles, and just compensation for labor and time, will allow.

Farmers and others are invited to call and examine the stock of Machines and Implements, and are assured that no effort shall be wanting to meet promptly the wants af a direriminating public.

☞ Circulars and Catalogues furnished gratis on application personally or by mail. E. D. HALLOCK,
June 1, 1853—tf No. 24, Exchange street, Rochester.

HARVEST IMPLEMENTS.

MOWING and Reaping Machines of different patterns, and of the best kinds in market.

Scythes, Snaths, Cradles, and large Hand-rakes, made expressly for raking after the cart; also, Horse Hay Rakes.

Pitchforks, very superior, of elastic steel.

Threshing Machines and Fan Mills, combined or single.

Horse Powers of the most approved kinds, such as the Endless-chain or Railway, Circular, Cast Iron, &c.

Ruta Baga, Turnips, Cabbages, and all other sorts of field and garden seeds. R. L. ALLEN,
189 and 191 Water street, New York, Ag'l Warehouse.
June 1, 1853.

Plows and Cultivators.

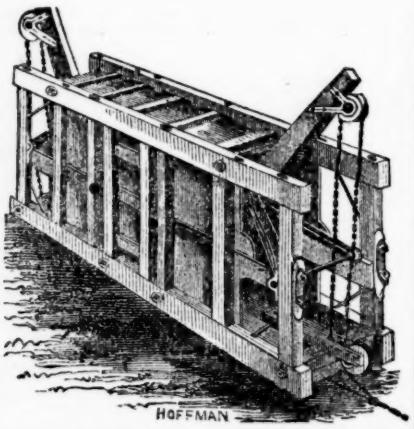
PROUTY & MEARS' Patent Center Draft Plows—all sizes—and castings for the same.

MINOR & HORTON'S New Improved, fitted up in the most substantial manner.

RICH'S Iron Beam Plows, of all sizes.

Universal Cultivators, with Scarifiers; Expanding do.; and Hand Garden Cultivators and Plows.

For sale by LONGETT & GRIFFING,
[3t] No. 25 Cliff street, New York.



H. L. Emery's Newly Invented Double, Toggle-Jointed, Horizontal, Progressive Lever Hay and Cotton Press.

PROBABLY no one thing has been more wanted, and less improvements made upon it of late years, than the Hay Press. Notwithstanding this was completed quite late the past season, a large number were made and put into successful operation. As seen in the cut it is closed up and about midway in process of compressing a bundle of Hay. When fully pressed home, the ends of the levers, which are seen at each end extending above the box, are brought down by the chains or ropes and shelves, until the levers themselves become horizontal with the floor. The Press is provided with two followers, both working from the ends towards the center and each other. The chains or ropes from the levers are connected together by passing one of them under the machine and both joining in a larger chain or rope—this larger one being connected with a capstan or blocks and ropes, as most convenient.

When the Press is driven home, the hay becomes pressed into a bundle standing on its end. The side doors are thrown open while the bands are passed round the bundle and secured, when the top doors are loosened and the bundle thrown out. For operation, the levers are raised, the followers drawn back, and the top doors opened from the center to each end by unbuttoning the middle cross bar, as seen in the cut. The opening on the top for receiving hay, is 2 feet wide and 8 feet long. The Press stands upon the floor or ground when in use, which makes it both convenient and capacious for filling and treading in the hay.

The whole Press measures 14 feet long, 2 ft. 10 in. wide, 4 ft. 10 in. high, outside measurement, and weighs, complete, from 1200 to 1500 lbs., and is capable of compressing 250 lbs. of Timothy Hay into 16 cubic feet, (being 2x2x4 ft.) at the rate of five bundles per hour, with two men and one horse, and heavier bales in proportion as to size and time required.

For transportation, the inside work is readily removed and boxed up, while the sides are packed together making solid cubic measurement of the whole thing.

Price complete, with chains and capstans, $135, and warranted to work as represented, to the satisfaction of the purchaser.

I will, in a future number, give a further notice in detail, with more cuts illustrating its several parts detached.

For further particulars address H. L. EMERY,
April, 1853. Albany, N. Y.

REMOVAL!

HALLOCK'S AGRICULTURAL WAREHOUSE has been removed from No. 50 State street, to

No. 24 Exchange St., Rochester,

in the Store formerly occupied by J. E. CHENEY as a Stove Store. The new store is well supplied with Implements, Seeds, &c., comprising a larger and more complete assortment than heretofore. Former customers and farmers generally are invited to call at the new establisment and examine for themselves. E. D. HALLOCK,
April, 1853. 24 Exchange St., Rochester, N. Y.

EMERY'S MOWER AND REAPER.

THE subscriber, not only having made himself practically acquainted with the construction and working of all the successful machines of this class, but having made and successfully introduced several valuable improvements in some classes of agricultural machinery, which have already gained favorable and world-wide reputation and adoption, flatters himself that he has also made an improvement in the construction of a Mower and Reaper of equal if not greater merit, than any of his former improvements.

It will suffice to say, that while this is the most compact, light, simple, cheap, durable, easy working machine, it is at the same time the most perfectly adjustable, and easily convertible into a Mower or Reaper, working as perfectly in either form as those of the best other kinds, whether simple or combined. The frame itself is so suspended upon the axis of the main wheel, as to be elevated and depressed at pleasure, so as to secure a horizontal or inclined (forward or back) position of the whole machine, at whatever elevation used, thus always having the cutting works in proper position.

In reaping, a reel is used, and the raker stands erect, face forward and directly behind the platform, with a support about him; the movable platform being on the same plane with the frame-work at the side of the discharge, and at the same time about two inches above the stubble. With the above introduction, and the diagrams to follow, together with those in this number of the Genesee Farmer, the public will have before them several machines from which to make a selection before purchasing for the coming season, and at the same time know what they are purchasing, much better than to be guided alone by impracticably written and published reports of committees of public trials, and be enabled to purchase only such articles as have their practical as well as theoretical merits plainly pointed out, or if not so pointed, to purchase only of responsible manufacturers, who are willing to back their machines by their reputation and capital.

For further particulars concerning the Reaper and Mower above described, address

HORACE L. EMERY, Albany, N. Y.
March, 1853.

☞ E. D. HALLOCK, No. 50 State street, Rochester, is agent for Western New York, and will have one put up in running order in his store. Those in his vicinity wishing to obtain a Reaper and Mower, are requested to call and examine the merits of the above machine before purchasing elsewhere.

Patent Mammoth Premium Corn-Stalk, Hay, and Straw Cutters & Grinders.

CAPABLE of preparing 100 bushels of Corn-stalks, or One Ton of Hay or Straw, per hour, and reducing the largest Corn-stalks to the consistency of Cut Straw, avoiding the necessity of steaming or soaking, and saving 80 per cent. over the common way of feeding fodder. Horses and Cattle will do as well on fodder prepared this way, as on the best hay. The First Premiums have been awarded at every exhibition where they have been exhibited for competition. It can be worked by hand or power, without additional cost. The inventor will forfeit $50, after an impartial trial, when this Machine is used in preparing good fodder, if it does not prove to save 80 per cent. over the common way of feeding fodder, and it may be fed in the same condition as the machine leaves it, without meal or soaking. Cows fed on fodder produce sweeter butter. Over 900 of these Machines have been sold. Price—$35.

☞ State and County Rights for sale.

Gilbert's Excelsior Thresher and Cleaner,

Accomplishing more, with the same power, than any other Machine. It can be driven with two horses.

Price—$200 and upwards, according to size, Horse Power included. Apply post paid to J. G. GILBERT,
[2-tf] 216 Pearl st., New York.

Manures.

FERTILIZERS of all kinds for sale by the subscribers.

Improved Superphosphate of Lime, Superphosphate of Lime—both the above made after the recipe of Prof. Mapes.

Peruvian Guano, Sulphuric Acid, Bone-dust, Potash Sparlings, Poudrette, Plaster of Paris, &c. &c.

GEO. H. BARR & CO.
58 Cortland St., New York.

Northern N. Y. Live Stock Insurance Company, Plattsburgh, N. Y. For terms, please apply to agents of the Company.

PRINCE & CO.'S
IMPROVED PATENT MELODEON.

GEO. A. PRINCE & Co., MANUFACTURERS, 200 MAIN ST., BUFFALO, N. Y.

WHOLESALE DEPOT, - - - - - - - 87 FULTON STREET, NEW YORK.

For the convenience of MUSIC DEALERS in all parts of the United States, we have made an arrangement with the following firms, who will supply the TRADE at our regular Factory prices:

GEO. P. REED & CO., 17 Tremont Row, Boston, Mass. COLBURN & FIELD, 154 Main St., Cincinnati, O. BALMER & WEBER, 58 Fourth St., St. Louis, Mo.

General Agent for New York City,

WM. HALL & SON, - - No. 239 Broadway, opposite the Park.

The subscribers take this method of calling the attention of the public to a new Musical Instrument, as yet but little known to the musical world, viz: Prince and Co.'s Improved Patent Melodeon.

It is now about five years since these instruments were first offered for sale, and during that time the increased demand for them has been unparalleled. One hundred and fifty workmen are constantly employed in the manufacture and finishing from 75 to 80 instruments per week, and as yet they have not been able to supply the demands promptly.

For the benefit of those residing at a distance, and consequently unable to inspect the Melodeon before purchasing, we will endeavor to give a short description of the instrument.

The cases are made of Rosewood, and are as handsomely finished as any piano forte. The keyboard is precisely the same as the piano or organ, and the tone (which is very beautiful) closely resembles that of the Flute Stop of the Organ—the notes speak the instant the keys are touched, and will admit of the performance of as rapid passages as the Piano. The Pedal on the left is intended for a swell, and with which the most beautiful effects can be produced. The Pedal on the right supplies the wind, and works so easily that a child can manage it without any exertion. The Bellows, (which is something entirely new, and for which a Patent was granted in December, 1846,) is a reversed or exhaustion Bellows, and it is this, in a measure, which produces the peculiar tone. The instrument can be immediately made portable without detaching any part, the bellows receding into the body of the instrument, and the legs folding under and springing to their places, leaves the whole in a compact form. Each instrument has a packing case secured by lock and key.

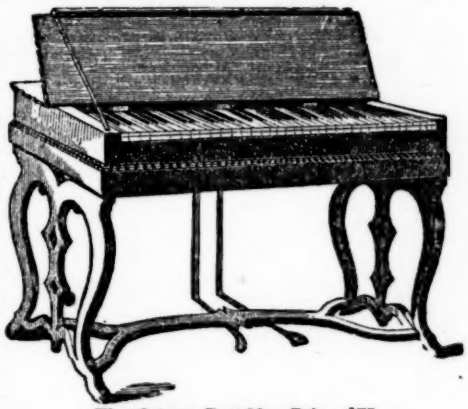
The volume of tone is equal to that of a small organ, and by means of the swell may be increased or diminished at the pleasure of the performer; it is sufficiently loud for small churches, and is well calculated for a parlor instrument. Hundreds have examined them, and all have been loud in their praise; and the best evidence of their merit is their rapid sale. But it is a new instrument—a new invention, and is yet but little known in the musical world, and it is for this reason that we call to it the attention of all lovers of Music, believing that there are thousands who would lose no time in securing one, were they aware of the existance of such an instrument, and the low price at which it could be obtained.

The following letter from Lowell Mason, Boston, to G. P. Reed, we are permitted to use:

MR. GEO. P. REED, No. 17 Tremont Row, Boston, Mass.

Dear Sir—At your request I have examined one of the Melodeons manufactured by Messrs. Geo. A. Prince & Co., of Buffalo. I think the instrument in all respects equal, and in some respects superior, to any others of similar kind which I have seen, and in particular with respect to quality of tone and promptness of touch, or action of the reeds, by which quick passages may be performed with certain and distinct articulation of tones. An instrument of this kind is the best substitute for an Organ in Church Music with which I am acquainted. LOWELL MASON.

Boston, Mass., Sept. 26, 1849.



Five Octave—Portable. Price, $75.

PRICES.

FOUR OCTAVE MELODEON, extending from C to C,	$45 00
FOUR AND A HALF OCTAVE MELODEON, extending from C to F,	65 00
FIVE OCTAVE MELODEON, extending from F to F,	75 00
LARGE FIVE OCTAVE MELODEON—Piano style,	100 00
LARGE FIVE OCTAVE MELODEON—Piano style with two sets of reeds, tuned in octaves,	150 00

☞ Just published, "PRINCE'S COMPLETE INSTRUCTOR FOR THE IMPROVED MELODEON; to which is added favorite Airs, Voluntaries, and Chants, arranged expressly for this Instrument. Price 75 Cents.

CAUTION.—In consequence of the great success which has attended the introduction of Prince & Co.'s Melodeons, numerous imitators have sprung up in different parts of the country—offering instruments under the same name, and in outward appearance resembling them. We would therefore caution the public to be on their guard, and examine those made by Prince & Co. before purchasing. Many improvements applied *are exclusively our own*, and being the original manufacturers, our experience has enabled us to produce Instruments which a discerning public have unanimously pronounced superior to any thing of the kind hitherto manufactured. Many of the most eminent Musicians of the cities of New York and Boston have voluntarily given testimonials as to the high character of our Instruments, which can be seen on application.

All orders from a distance will be promptly attended to, and a written guaranty of their durability will be given if required.

GEO. A. PRINCE & CO.

THE WATER CURE JOURNAL.—A New Volume.—Now is the time to subscribe.—Published monthly, in a beautiful quarto. Illustrated with engravings, exhibiting the Structure, Anatomy, and Physiology of the Human Body, with familiar instructions to learners. It is emphatically a Journal of Health, designed to be a complete Family Guide in all diseases.

TERMS—Only One Dollar a Year, in Advance. Address, post-paid, FOWLERS AND WELLS, Clinton Hall, No. 131 Nassau Street, New York.

"The Water Cure Journal holds a high rank in the science of health, always ready, straightforward and plain spoken, it unfolds the laws of our physical nature without any pretensions to the technicalities of science, but in a form as attractive and refreshing as the sparkling element of which it treats."—*New York Tribune.*

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July, 1852—4t.

AGRICULTURAL.

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The American Fowl Breeder. Price,..... 25

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IN BAGS and Barrels, made by C. B. DE BURG, with full directions for use,—warranted a pure and genuine article—for sale by GEO. DAVENPORT, No. 5 Commercial, corner of Chatham street, Boston, Agent for the manufacturer.

Also, for sale, Ground Bone, Bone Dust, Burnt Bone, Guano, and Grass Seeds, of reliable quality. [4-tf]

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Atkins' Self-raking Reaper.

THIS machine is now offered to the public, and warranted to be a good self-raking reaper. It is also believed to be a good mower, but not yet having been sufficiently tested in grass (though it soon will be), is not warranted to be equal to a machine made mainly or wholly to mow.

The raking apparatus is of novel and very simple construction, and not liable to derangement, and every farmer who has seen it in the harvest field, says it performs the raking better than a man can possibly do it.

Price of machines at Chicago, $175, of which $75 must be paid on giving the order, $50 upon successful trial, and $50 in note payable 1st December.

The machines are most thoroughly built and warranted.

☞ Descriptive circulars, with cuts, sent to post-paid applications. J. S. WRIGHT.

"Prairie Farmer" Warehouse, Chicago, July, 1853.—3t

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THE GENESEE FARMER,

A MONTHLY JOURNAL OF

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VOLUME XIV, FOR 1853.

DANIEL LEE, JAMES VICK, JR., & JOSEPH HARRIS, EDITORS.

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DANIEL LEE,

November, 1852. *Rochester, N. Y.*

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